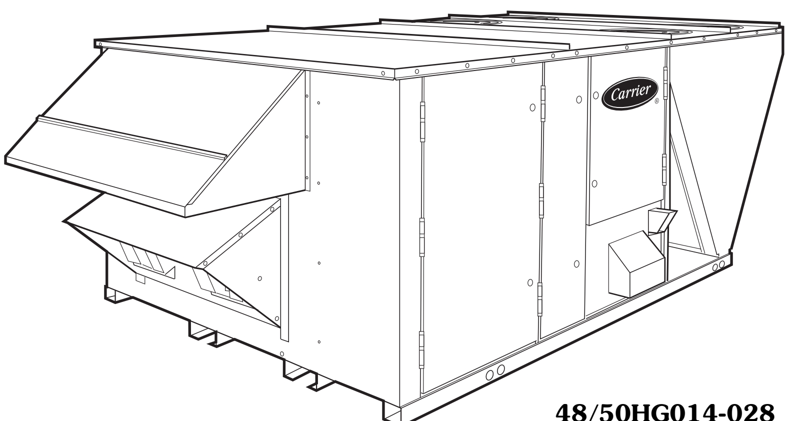
Product Data

48HG014-028
50HG014-028
Single Package Rooftop Units with *Comfort*Link™ Control

13 to 25 Nominal Tons



48/50HG014-028
CENTURION UNIT

Ultra High Performance, Single Package Rooftop Units with:

- Cooling EERs up to 11.6
- IPLV's up to 13.7
- Easy fit up to previously installed Carrier DP, DR, HJ, or TJ roof curbs
- Dedicated vertical or side-by-side horizontal airflow units
- Communicating *Comfort*Link controls with Scrolling Marquee display
- Slide-out indoor fan system assembly
- Service access panels with double wall construction, stainless steel hinges, tiebacks, and quick turn latches
- Low outdoor sound levels of 8.2 bels (8.5 bels on 028)
- Scroll compressors with crankcase heaters
- Three mechanically and electronically independent refrigerant circuits on 016, 020, and 024 units and two mechanically and electronically independent refrigerant circuits on 014 and 028 units
- TXV refrigerant metering devices
- Cabinet made of pre-painted galvanized steel with baked enamel finish and fully insulated
- 0° to 125 F ambient cooling operation capability standard
- Standard one-year parts warranty, 5-year compressor warranty, 10-year gas heat exchanger warranty and 5-year factory-installed electric heater warranty with many options
- Internally sloped condensate pan ensures proper drainage and helps eliminate any condensate build-up in the pan

Features/Benefits

Every compact one-piece unit arrives fully assembled, charged, tested, and ready to run.

Cooling EERs

The 48/50HG014 (13 tons) units provide ARI (Air Conditioning and Refrigeration Institute) certified cooling EERs (Energy Efficiency Ratios) of 11.6. The 48/50HG016 (15 tons) unit has an EER of 11.5. The 48/50HG020 (18 tons) unit has an EER of 11.2. The 48/50HG024 (20 tons) unit has an EER of 11.2. The 48/50HG028 (25 tons) unit has an EER of 10.4. These exceptionally high ratings assure minimum operating costs and will qualify for attractive utility rebates in many areas. All units also well exceed the ASHRAE required efficiencies to ensure code conformance.

These units offer high energy efficiency and lower utility costs through part load operation using 2 stages of cooling (014 and 028) or 3 stages of cooling (016 to 024).

Easy installation

The 48/50HG rooftop unit replaces an installed Carrier rooftop unit because it fits on an existing DP, DR, HJ, or TJ roof curb. No transition curb is required, therefore saving from 15 to 25% on installation cost is possible.

Dedicated vertical or side-by-side horizontal airflow units can be ordered. No clumsy, expensive adapter curbs are required, saving installation cost.

The 48/50HG014-028 units fit one size roof curb. The contractor can order and install the roof curb early in the construction stage, before decisions on size requirements are made.

Using the Carrier *Comfort*Link™ controls, an installation run test can verify a proper start up.

All units feature base rail design with rigging holes for easier maneuvering, rigging, and lifting on the jobsite. Durable packaging protects all units during shipment and storage.

The units can be ordered in either the vertical or horizontal discharge configurations. An accessory horizontal discharge kit is also available for easy field conversion from a vertical to a horizontal discharge configuration.

Convenient duct openings in the unit basepans permit side-by-side or concentric duct connections without requiring internal unit modification.

Factory- and field-installed electric heaters are available in a wide range of capacities (50HG). Gas heat is available on 48HG units in 3 sizes.

Terminal boards, located in the base unit control box, facilitate connections to room thermostat, outdoor thermostat(s), economizer, and electric heat. Hinged service panels are provided, permitting easy access.

Thru-the-curb service connections allow power and control wiring to be routed through the curb, minimizing roof penetrations. Both power and control connections are made on the same side of the unit to simplify installation. In addition, color-coded wires permit easy tracing and diagnostics.

Service and maintenance features result in low costs

Servicing and maintaining a rooftop unit has never been easier with the new factory-installed service features.

Hinged service access panels for the filter/indoor-fan motor, compressors, evaporator fan, and control box areas. Quick access to major components is accomplished by simply unlatching and swinging open the various panels. Each hinged panel is permanently mounted to the unit, thereby eliminating the concern of a dropped or windblown panel puncturing delicate roof materials. Tie downs are provided to ensure panels remain in place when open.

The indoor fan system slides out for easy access. Blower wheels, motors, belts, and both bearings can be serviced with ease.

*Comfort*Link controls provide temperature and pressure readings electronically. No gages are required.

An optional 115-v Ground Fault Interrupt (GFI) receptacle as a convenient power source for drills, lights, refrigerant recovery units, or other electrical service tools. The option includes a step-down transformer, so only unit power is required.

An optional, integral, non-fused disconnect switch within the rooftop unit reduces installation time, labor and material costs. The externally mounted handle incorporates power lockout capability to further protect service personnel.

Indoor air quality begins with Carrier rooftops

Internally sloped condensate pans minimize biological growth in rooftop units in accordance with ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers) Standard 62. Two-in. filters, optional 30% pleated filters, or optional 4-in. filter capability with optional dirty filter indicator switch provide for greater particle removal in the return air. Accessory enthalpy controls available for use with the optional economizers maximize building humidity control.

Built in capability for DCV (demand control ventilation) is standard and integrates with CO_2 sensors.

Quality Assurance

Carrier Corporation UL Registered Firm ISO 9001:2000 #A2260

BSI Registered Firm — Certificate No FM 21837

Approvals:

ISO 9001

EN 9000:2000

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Durable, dependable construction

Designed for durability in any climate, the weather-resistant cabinets are constructed of galvanized steel and all exterior panels are coated with a prepainted baked enamel finish. The paint finish is non-chalking, and is capable of withstanding ASTM (American Society for Testing and Materials) B117 500-hour Salt Spray Test. Totally enclosed condenser-fan motors and permanently lubricated bearings provide additional unit dependability. The shaft-down design of the condenser fan also ensures protection from harsh environments.

Quality and reliability

To assure long life and quality performance, every rooftop unit is factory run tested. Individual components are also tested at many levels to assure than only the best parts make it into the Carrier rooftop units. A printout accompanies each unit, indicating the pressure and temperature of the run test.

Reliable scroll compressors are used with three independent refrigerant circuits on the 016,020, and 024 units and two independent circuits on the 014 and 028 units. Multiple circuits provide better reliability at part load conditions and on VVT® (Variable Volume and Temperature) installations. Redundancy and backup operation is assured with the multiple circuit design. Each circuit features a TXV (thermostatic expansion valve) for refrigerant metering with removable powerhead.

The Carrier Centurion units will operate in the cooling mode from 0° F to 125 F ambient temperature.

Highly reliable pillow-block bearings are used in the indoor fan system.

Each circuit contains a liquid line filter drier.

The Carrier McMinnville, Tennessee (U.S.A.) plant is an ISO 9001:2000 registered facility as are many of Carrier's other component and assembly plants throughout the world.

Quiet and efficient operation is provided by belt-driven evaporator fans. The belt-driven evaporator-fan with variable-pitch pulleys allows adjustment to available static pressure to meet the job requirements of even the most demanding applications. Multiple drive options are available to match system airflow and static pressure requirements.

Integrated economizers and outdoor air

During a call for cooling, if the outdoor-air temperature is below the control changeover set point, the *Comfort*Link™ unit control modulates the economizer outdoor-air damper open to achieve the set point. If economizer cooling is not sufficient, additional compressor stages are energized in addition to the economizer. If the outdoor-air temperature is above the changeover set point, the first stage of compression is activated and the economizer stays at minimum position. Economizer operation is controlled by a thermistor that senses outdoor-air temperature. An accessory (field-installed) differential enthalpy switch upgrade kit is also available.

For units without economizer, year-round ventilation is enhanced by a manual outdoor-air damper. The damper can be preset to admit up to 50% outdoor air.

In addition, the barometric relief damper or multi-stage power exhaust can be utilized to help maintain proper building pressure.

Low sound

Outdoor sound levels of 8.2 bels (014-024 units) and 8.5 bels (028 units) are the best in the industry. Low sound levels allow for maximum installation flexibility.

Gas heating units

Integrated gas unit controller (IGC) (48HG models) — All ignition components are contained in the compact IGC which is easily accessible for servicing. The IGC control board, designed and manufactured exclusively for Carrier rooftop units, provides built-in diagnostic capability. An LED (light-emitting diode) simplifies troubleshooting by providing visual fault notification and system status confirmation.

The IGC also contains an anti-cycle protection for gas heat operation. After 4 continuous cycles on the unit high-temperature limit switch, the gas heat operation is disabled, and an error code is issued. This feature greatly improves reliability of the rooftop unit.

The IGC also contains burner control logic for accurate and dependable gas ignition. This LED fault-notification system reduces service person troubleshooting time and minimizes service costs. The IGC can also maximize heating efficiency by controlling evaporator fan on and off delays.

Efficient, dependable operation — Tubular, dimpled gas heat exchangers optimize heat transfer for improved efficiency. The tubular design permits hot gases to make multiple passes across the path of the supply air. The dimpled design creates a turbulent gas flow to maximize heating efficiency. The extra thick Alumagard™ heat exchanger coating provides corrosion resistance and ensures long life. An optional stainless steel heat exchanger is also available.

The unsightly appearance of flue stacks is eliminated and the effects of wind on heating operations are diminished by the induced draft combustion system. The inducer fan draws hot combustion gas through the heat exchanger at the optimum rate for the most effective heat transfer. Induced draft heating systems are safer than positive pressure, forced draft heating systems. With the induced draft heating system, the heat exchanger operates under negative pressure, preventing flue gas leakage into the indoor supply air.

During the Heating mode, the evaporator-fan relay automatically starts the evaporator fan after the heat exchanger warms up to a suitable temperature. The 30-second fan delay prevents cold air from entering the supply duct system when the conditioned space is calling for heat to maximize efficiency.

The direct-spark ignition system saves operating expense when compared to pilot ignition systems. No crossover tube is required, therefore no sooting or pilot fouling problems can occur.

All 48HG standard units are designed for natural gas, but an accessory LP (liquid propane) conversion kit is available, if required.

Safety is built in — All 48HG units have a flame rectification sensor to quickly sense the burner flame and ignite burners almost immediately. Fast shutdown is a certainty since the sensor reacts quickly to any flame outage or system failure. In the event of a shutdown, an error code is issued at the IGC board.

Safety is also assured due to the heating safety controls which will shut down the unit if there is a problem. If excessive temperatures develop, limit switches shut off the gas valve. After 4 continuous short cycles of the high-temperature limit switch, the IGC board locks out the gas heat cycle to prevent any further short cycles. This safety feature is provided exclusively on Carrier rooftop units. The rollout

switch also deenergizes the gas valve in the event of a flame rollout.

*Comfort*Link™ control

The *Comfort*Link control is your link to a world of simple and easy to use rooftop units that offer outstanding performance and value. When used with a space temperature sensor, the *Comfort*Link control's intelligence maintains control over the economizer and condenser fans and optimizes the performance of the multiple refrigeration circuits as conditions change resulting in the following features:

- higher part load efficiency
- better control of temperature and humidity
- superior reliability
- automatic redundancy
- high ambient cooling operation at 125 F
- low ambient cooling operation at 0° F

The *Comfort*Link Scrolling Marquee is very easy to use. The messages are displayed in easy to understand English, no decoding is required. A scrolling readout provides detailed explanations of control information. Only four, large, easy-to-use buttons are required to maneuver through the entire menu. The readout is designed to be visible even in the brightest sunlight. A hand-held Navigator accessory can be used for added service flexibility.

The *Comfort*Link control provides unparalleled service diagnostic information. Temperature and pressure can be read from the display with no need for separate gages. Other data, such as compressor cycles, unit run time hours, current alarms, can also be accessed. A history of alarms is also available for viewing.

The service run test can be very helpful when troubleshooting. The user can run test major components to determine the root cause of a problem. The unit can be run-tested before an installation is complete to ensure satisfactory start-up.

To ensure reliability, the *Comfort*Link control prevents reverse compressor rotation.

No laptop computers are required for start-up. Time schedules are built in and the scrolling marquee display provides easy access to set points.

The *Comfort*Link control accepts input from a CO_2 sensor and a smoke detector. Both are available as factory-installed options or as field-installed accessories.

*Comfort*Link controls are fully communicating and are cable-ready for connection to the Carrier Comfort Network (CCN). The control communicates at 38.4 kilobaud. This provides high-speed communications for remote monitoring via the internet. Multiple Centurion rooftop units can be daisy-chained together using a 3-wire communication bus at the rooftop level. The *Comfort*Link/CCN system is a peer-to-peer system, rather than a polling system. This results in lower cost installations.

The Centurion rooftop units have a terminal strip on board, therefore, the Centurion units can operate with a standard thermostat. Expensive interface devices are not required.

Model number nomenclature

48HG D 024 A A C 6 0 1 AA

Product Series Type
48HG – Single Package Rooftop Units, Gas Heating/Electric Cooling, Constant Volume
50HG – Single Package Rooftop Units, Electric Cooling/ Optional Electric Heat, Constant Volume

Heating Options
– – No Heat (50HG Units)
A – Low Electric Heat (50HG Units)
B – Medium Electric Heat (50HG Units)
C – High Electric Heat (50HG Units)
D – Low Gas Heat with Aluminized Steel Heat Exchanger (48HG Units)
E – Medium Gas Heat with Aluminized Steel Heat Exchanger (48HG Units)*
F – High Gas Heat with Aluminized Steel Heat Exchanger (48HG Units)
K – Low Gas Heat with Stainless Steel Heat Exchanger (48HG Units)
L – Medium Gas Heat with Stainless Steel Heat Exchanger (48HG Units)*
M – High Gas Heat with Stainless Steel Heat Exchanger (48HG Units)

Nominal Capacity – Tons
014 – 13 Tons
016 – 15 Tons
020 – 17-1/2 Tons
024 – 20 Tons
028 – 25 Tons

Service/Control Options
A – *Comfort*Link™ Controls (Standard)
B – *Comfort*Link Controls w/CO_2 Sensor
C – *Comfort*Link Controls w/Smoke Detector
D – *Comfort*Link Controls w/CO_2 Sensor & Smoke Detector
E – *Comfort*Link Controls w/Plugged Filter Indicator
F – *Comfort*Link Controls w/CO_2 Sensor & Plugged Filter Indicator
G – *Comfort*Link Controls w/CO_2 Sensor, Smoke Detector & Plugged Filter Indicator
H – *Comfort*Link Controls w/Smoke Detector and Plugged Filter Indicator

Indoor Motor Options
– – Standard Motor and Standard Drive
A – Standard Motor and Alternate Drive
B – Alternate Motor and Standard Drive
C – Alternate Motor and Alternate Drive

Coil Protection Options (fin/tube)
– – Al/Cu Cond & Evap
A – Al/Cu Pre-Coat Cond & Al/Cu Evap
B – Al/Cu E-Coat Cond & Al/Cu Evap
C – Al/Cu E-Coat Cond & Evap
D – Cu/Cu Cond & Al/Cu Evap
E – Cu/Cu Cond & Evap
F – Cu/Cu E-Coat Cond & Al/Cu Evap
G – Cu/Cu E-Coat Cond & Cu/Cu Evap
H – Cu/Cu E-Coat Cond & Evap

Voltage Description
1 – 575-3-60
5 – 208/230-3-60
6 – 460-3-60

Design Changes

Packaging
1 – Domestic

Factory-Installed Options Code†

LEGEND

Al	—	Aluminum
Cu	—	Copper
FIOP	—	Factory-Installed Option

*Size 016-028 only.
†Refer to 48HG or 50HG price pages or contact your local Carrier representative for FIOP code table.

ARI* capacity ratings

UNIT 48/50HG	NOMINAL CAPACITY	STANDARD AIRFLOW	NET COOLING CAPACITY	TOTAL POWER	EER	SOUND RATING	IPLV†
	Tons	Cfm (Cfm/Ton)	Btuh (Tons)	kW		Bels	
014	13.0	3,800 (305)	155,400 (12.9)	13.4	11.6	8.17	13.2
016	15.0	4,500 (300)	182,500 (15.2)	15.8	11.5	8.17	13.7
020	17.5	5,500 (325)	201,300 (16.8)	18.0	11.2	8.17	12.8
024	20.0	6,000 (300)	238,200 (19.8)	21.2	11.2	8.17	12.4
028**	25.0	7,500 (300)	283,600 (23.6)	27.3	10.4	8.46	11.0

LEGEND

Bels — Sound Levels (1 bel = 10 decibels)
db — Dry Bulb
EER — Energy Efficiency Ratio
IPLV — Integrated Part-Load Values
wb — Wet Bulb

*Air Conditioning and Refrigeration Institute.
†IPLV values are calculated based on control configuration T.CTL = 2 (2 Stage Y1).
**Size 028 unit is not listed with ARI, but is tested to ARI standards.

NOTES:
1. Rated in accordance with ARI Standards 340/360-93 and 270-95.
2. ARI ratings are net values, reflecting the effects of circulating fan heat.
3. Ratings are based on:
   Cooling Standard: 80 F db, 67 F wb indoor entering-air temperature and 95 F db air entering outdoor unit.
   IPLV Standard: 80 F db, 67 F wb indoor entering-air temperature and 80 F db outdoor entering-air temperature.

ARI HEATING CAPACITIES AND EFFICIENCIES — 48HG014-028

VERTICAL SUPPLY UNITS WITH NATURAL GAS

UNIT 48HG	HEATING INPUT BTUH Stage 2*	HEATING INPUT BTUH Stage 1	OUTPUT CAPACITY BTUH Stage 2	TEMPERATURE		STEADY-STATE EFFICIENCY %	MINIMUM HEATING CFM†
				Low Rise (F)	High Rise (F)		
D014	250,000	199,000	205,000	15	45	82%	4218
F014	296,000	224,000	242,000	25	55	82%	4086
D016	250,000	199,000	205,000	15	45	82%	4218
E016	365,000	281,000	296,000	25	55	81%	4977
F016	400,000	317,000	328,000	25	55	82%	5522
D020	250,000	199,000	205,000	15	45	82%	4218
E020	365,000	281,000	296,000	25	55	81%	4977
F020	400,000	317,000	328,000	25	55	82%	5522
D024	250,000	199,000	205,000	15	45	82%	4218
E024	365,000	281,000	296,000	25	55	81%	4977
F024	400,000	317,000	328,000	25	55	82%	5522
D028	250,000	199,000	205,000	15	45	82%	4218
E028	365,000	281,000	296,000	25	55	81%	4977
F028	400,000	317,000	328,000	25	55	82%	5522

*All units are 2-stage heat.
†Minimum heating cfm must be maintained to ensure proper heating operation.

NOTE: Minimum allowable temperature of mixed air entering the heat exchanger during first stage heating is 45 F. There is no minimum mixed-air limitation during second-stage heating.

HORIZONTAL SUPPLY UNITS WITH NATURAL GAS

UNIT 48HG	HEATING INPUT BTUH Stage 2*	HEATING INPUT BTUH Stage 1	OUTPUT CAPACITY BTUH Stage 2	TEMPERATURE		STEADY-STATE EFFICIENCY %	MINIMUM HEATING CFM†
				Low Rise (F)	High Rise (F)		
D014	250,000	199,000	205,000	15	45	82%	4218
F014	296,000	224,000	242,000	25	55	82%	4086
D016	250,000	199,000	205,000	15	45	82%	4218
E016	365,000	281,000	296,000	25	55	81%	4977
F016	400,000	317,000	328,000	25	55	82%	5522
D020	250,000	199,000	205,000	15	45	82%	4218
E020	365,000	281,000	296,000	25	55	81%	4977
F020	400,000	317,000	328,000	25	55	82%	5522
D024	250,000	199,000	205,000	15	45	82%	4218
E024	365,000	281,000	296,000	25	55	81%	4977
F024	400,000	317,000	328,000	25	55	82%	5522
D028	250,000	199,000	205,000	15	45	82%	4218
E028	365,000	281,000	296,000	25	55	81%	4977**
F028	396,000	314,000	325,000	25	55	82%	5470**

*All units are 2-stage heat.
†Minimum heating cfm must be maintained to ensure proper heating operation.
**7000 cfm minimum recommended above 1.0 in. wg external static pressure.

NOTE: Minimum allowable temperature of mixed air entering the heat exchanger during first stage heating is 45 F. There is no minimum mixed-air limitation during second-stage heating.

ARI capacity ratings (cont)

VERTICAL SUPPLY UNITS WITH FIELD-INSTALLED LIQUID PROPANE KIT

UNIT 48HG	HEATING INPUT BTUH Stage 2*	HEATING INPUT BTUH Stage 1	OUTPUT CAPACITY BTUH Stage 2	TEMPERATURE		STEADY-STATE EFFICIENCY %	MINIMUM HEATING CFM
				Low Rise (F)	High Rise (F)		
D014	250,000	207,000	205,000	15	45	82%	4218
F014	287,120	248,000	235,438	25	55	82%	3964
D016	250,000	207,000	205,000	15	45	82%	4218
E016	365,000	291,000	296,000	25	55	81%	4480
F016	400,000	331,000	328,000	25	55	82%	5522
D020	250,000	207,000	205,000	15	45	82%	4218
E020	365,000	291,000	296,000	25	55	81%	4480
F020	400,000	331,000	328,000	25	55	82%	5522
D024	250,000	207,000	205,000	15	45	82%	4218
E024	365,000	291,000	296,000	25	55	81%	4480
F024	400,000	331,000	328,000	25	55	82%	5522
D028	250,000	207,000	205,000	15	45	82%	4218
E028	365,000	291,000	296,000	25	55	81%	4480
F028	400,000	331,000	328,000	25	55	82%	5522

*All units are 2-stage heat.
†Minimum heating cfm must be maintained to ensure proper heating operation.

NOTES:
1. Minimum allowable temperature of mixed air entering the heat exchanger during first stage heating is 45 F. There is no minimum mixed-air limitation during second-stage heating.
2. Propane operation requires field-installed accessory kit.

HORIZONTAL SUPPLY UNITS WITH FIELD-INSTALLED LIQUID PROPANE KIT

UNIT 48HG	HEATING INPUT BTUH Stage 2*	HEATING INPUT BTUH Stage 1	OUTPUT CAPACITY BTUH Stage 2	TEMPERATURE		STEADY-STATE EFFICIENCY %	MINIMUM HEATING CFM†
				Low Rise (F)	High Rise (F)		
D014	225,000	207,000	184,500	15	45	82%	3796
F014	266,400	248,000	218,448	25	55	82%	3678
D016	225,000	207,000	184,500	15	45	82%	3796
E016	328,500	291,000	266,085	25	55	81%	4480
F016	356,400	331,000	292,248	25	55	82%	4920
D020	225,000	207,000	184,500	15	45	82%	3796
E020	328,500	291,000	266,085	25	55	81%	4480
F020	356,400	331,000	292,248	25	55	82%	4920
D024	225,000	207,000	184,500	15	45	82%	3796
E024	328,500	291,000	266,085	25	55	81%	4480
F024	356,400	331,000	292,248	25	55	82%	4920
D028	225,000	207,000	184,500	15	45	82%	3796
E028	328,500	291,000	266,085	25	55	81%	4480**
F028	356,400	331,000	292,248	25	55	82%	4920**

*All units are 2-stage heat.
†Minimum heating cfm must be maintained to ensure proper heating operation.
**7000 cfm recommended for operation above 1.0 in. wg external static pressure.

NOTES:
1. Minimum allowable temperature of mixed air entering the heat exchanger during first stage heating is 45 F. There is no minimum mixed-air limitation during second-stage heating.
2. Propane operation requires field-installed accessory kit.

OPERATION AIR QUANTITY LIMITS

48/50HG	COOLING		GAS HEAT	HEATING (Nat. Gas Vertical)	HEATING (Nat. Gas Horizontal)	HEATING (Propane, Vertical)	HEATING (Propane, Horizontal)	ELECTRIC HEAT	ELECTRIC HEAT (Vertical)	ELECTRIC HEAT (Horizontal)
	Minimum CFM	Maximum CFM		Minimum CFM	Minimum CFM	Minimum CFM	Minimum CFM		Minimum CFM	Minimum CFM
014	3,750	6,250	High Heat (6 Cell)	4,218	4,218	3,964	3,678	High Heat (50 kW)	3,750	4,800
			Medium Heat (N/A)	N/A	N/A	N/A	N/A	Medium Heat (25 kW)	3,750	3,750
			Low Heat (5 Cell)	4,086	4,086	4,218	3,796	Low Heat (15 kW)	3,750	3,750
016	4,500	7,500	High Heat (8 Cell)	5,522	5,522	5,522	4,920	High Heat (75 kW)	4,500	5,400
			Medium Heat (8 Cell)	4,977	4,977	4,480	4,480	Medium Heat (50 kW)	3,750	4,800
			Low Heat (5 Cell)	4,218	4,218	4,218	3,796	Low Heat (25 kW)	3,750	3,750
020	5,400	9,000	High Heat (8 Cell)	5,522	5,522	5,522	4,920	High Heat (75 kW)	4,500	5,400
			Medium Heat (8 Cell)	4,977	4,977	4,480	4,480	Medium Heat (50 kW)	3,750	4,800
			Low Heat (5 Cell)	4,218	4,218	4,218	3,796	Low Heat (25 kW)	3,750	3,750
024	5,500	10,000	High Heat (8 Cell)	5,522	5,522	5,522	4,920	High Heat (75 kW)	4,500	5,400
			Medium Heat (8 Cell)	4,977	4,977	4,480	4,480	Medium Heat (50 kW)	3,750	4,800
			Low Heat (5 Cell)	4,218	4,218	4,218	3,796	Low Heat (25 kW)	3,750	3,750
028	6,000	11,500	High Heat (8 Cell)	5,522	5,470*	5,522	4,920*	High Heat (75 kW)	4,500	5,400
			Medium Heat (8 Cell)	4,977	4,977*	4,480	4,480*	Medium Heat (50 kW)	3,750	4,800
			Low Heat (5 Cell)	4,218	4,218	4,218	3,796	Low Heat (25 kW)	3,750	3,750

*7000 cfm recommended for operation above 1.0 in. wg external static pressure.

MULTIPLICATION FACTORS

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.694	0.751	0.918	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.626	0.840	0.918	1.000	—	—	—
600	—	—	—	—	—	—	—	—	0.840	0.918	1.000

NOTE: The following equation converts kW of heat energy to Btuh: kW x 3.413 = Btuh.
EXAMPLE: 26.0 kW (at 240 v) heater on 208 v
= 26.0 (.751 mult factor)
= 19.5 kW capacity at 208 v.

ELECTRIC RESISTANCE HEATER DATA

UNIT 50HG	HEATER kW Unit Voltages							HEATER STAGES	% HEAT PER STAGE	HEATER AMPS						
	208	230	240	460	480	575	600			208	230	240	460	480	575	600
014	12	15	16	14	15	14	16	1	100	33	37	38	17	18	15	15
	19	23	25	23	25	23	25	2	50/50	52	58	60	29	30	23	24
	38	46	50	46	50	44	48	2	50/50	104	115	120	58	60	44	46
016,020, 024,028	19	23	25	23	25	23	25	2	50/50	52	58	60	29	30	23	24
	38	46	50	46	50	44	48	2	50/50	104	115	120	58	60	44	46
	56	69	75	69	75	72	78	2	50/50	156	173	180	86	90	72	75

NOTES:
1. Heaters are rated at 208, 240, 480, and 600 v. Use multiplication factors table to determine kW at different voltages.
2. All heaters except 208/230-v, 75-kW heaters have single point connection capability.

OUTDOOR SOUND POWER

UNIT 48/50HG	A-Weight (dB)	OCTAVE BANDS							
		63	125	250	500	1000	2000	4000	8000
014-024	81.7	90.2	84.8	80.7	79.0	77.6	71.4	66.7	60.7
028	84.9	90.0	86.3	83.6	82.9	80.3	74.9	71.4	66.5

Physical data — 48HG014-028 units

UNIT 48HG		014		016		020	
VOLTAGE		208/230 and 460	575	208/230 and 460	575	208/230 and 460	575
NOMINAL CAPACITY (Tons)		13	13	15	15	17.5	17.5
OPERATING WEIGHT (lb)							
48 SERIES (Low Heat)		2102	2102	2196	2196	2224	2224
COMPRESSOR							
Quantity		2	2	3	3	3	3
Number of Refrigerant Circuits		2	2	3	3	3	3
Oil (ounces) Ckt A...Ckt B...Ckt C		72...72...NA	72...72...NA	68...68...68	68...68...68	68...68...72	68...68...72
REFRIGERANT TYPE		R-22					
Expansion Device		TXV	TXV	TXV	TXV	TXV	TXV
Operating Charge (lb)							
Circuit A		19.6	19.6	13.2	13.2	13.1	13.1
Circuit B		18.3	18.3	12.2	12.2	12.7	12.7
Circuit C		NA	NA	15.4	15.4	15.2	15.2
CONDENSER COIL							
Rows...Fins/inch		2...17	2...17	2...17	2...17	2...17	2...17
Total Face area (sq. ft)		57.78	57.78	57.78	57.78	57.78	57.78
CONDENSER FAN							
Nominal Cfm (Total, all fans)		14,000	14,000	14,000	14,000	14,000	14,000
Quantity...Diameter (in.)		4...22	4...22	4...22	4...22	4...22	4...22
Motor HP...Rpm		1/4...1100	1/4...1100	1/4...1100	1/4...1100	1/4...1100	1/4...1100
Watts input (Total)		1400	1400	1400	1400	1400	1400
EVAPORATOR COIL		Face Split					
Rows...Fins/inch		3...15	3...15	3...15	3...15	3...15	3...15
Total Face area (sq. ft)		23.33	23.33	23.33	23.33	23.33	23.33
EVAPORATOR FAN							
Quantity...Size		2...15x11	2...15x11	2...15x11	2...15x11	2...15x11	2...15x11
Type Drive		Belt	Belt	Belt	Belt	Belt	Belt
Nominal Cfm		5000	5000	6000	6000	7000	7000
Std Motor Hp		3.7	3	3.7	3	5	5
Opt Motor Hp		5	5	5	5	7 1/2	7 1/2
Motor Nominal Rpm		1725	1725	1725	1725	1725	1725
Std Maximum Continuous Bhp		4.25	3.45	4.25	3.45	5.75	5.75
Std Maximum Continuous Watts		3171	2574	3171	2574	4290	4290
Alt Maximum Continuous Bhp		5.75	5.75	5.75	5.75	8.63	8.63
Alt Maximum Continuous Watts		4290	4290	4290	4290	6438	6438
Motor Frame Size	Standard	56HZ	56H	56HZ	56H	S184T	184T
Motor Frame Size	Alternate	S184T	184T	S184T	184T	S213T	S213T
Fan Drive Rpm Range	Std motor/Std drive	485-613	472-619	618-789	609-778	658-808	658-808
	Std motor/Alt drive	618-789	609-778	485-613	472-619	794-974	794-974
	Alt motor/Std drive	778-1021	778-1021	778-1021	778-1021	949-1145	949-1145
	Alt motor/Alt drive	1000-1227	1000-1227	1000-1227	1000-1227	1126-1328	1126-1328
Motor Bearing Type		Ball	Ball	Ball	Ball	Ball	Ball
Maximum Allowable Rpm		1400	1400	1400	1400	1400	1400
Motor Pulley Pitch Diameter	Std motor/Std drive	3.7-4.7	3.1-4.1	3.4-4.4	3.4-4.4	4.3-5.3	4.3-5.3
	Std motor/Alt drive	3.4-4.4	3.4-4.4	3.7-4.7	3.1-4.1	4.3-5.3	4.3-5.3
	Alt motor/Std drive	3.1-4.1	3.1-4.1	3.1-4.1	3.1-4.1	5.4-6.6	5.4-6.6
	Alt motor/Alt drive	4.3-5.3	4.3-5.3	4.3-5.3	4.3-5.3	5.5-6.5	5.5-6.5
Motor Shaft Diameter (in.)	Standard	7/8	7/8	7/8	7/8	1 1/8	1 1/8
Motor Shaft Diameter (in.)	Alternate	1 1/8	1 1/8	1 1/8	1 1/88	1 3/8	1 3/8
Belt, Quantity...Type...Length (in.)	Std motor/Std drive	1...BX...51	1...BX...48	1...A...45	1...A...45	1...BX...46	1...BX...46
	Std motor/Alt drive	1...A...45	1...A...45	1...BX...51	1...BX...48	1...BX...42	1...BX...42
	Alt motor/Std drive	1...BX...38	1...BX...38	1...BX...38	1...BX...38	1...BX...46	1...BX...46
	Alt motor/Alt drive	1...B...38	1...B...38	1...B...38	1...B...38	1...BX...42	1...BX...42
Pulley center line distance (in.)		11.3-12.3	11.3-12.3	11.3-12.3	11.3-12.3	10.0-12.2	10.0-12.2
Speed change per full turn of moveable pulley flange (Rpm)	Std motor/Std drive	21	25	29	28	25	25
	Std motor/Alt drive	29	28	21	25	30	30
	Alt motor/Std drive	41	41	41	41	33	33
	Alt motor/Alt drive	38	38	38	38	34	34
Moveable pulley maximum full turns from closed position		6	6	6	6	6	6
Factory Pulley Setting (turns from closed position)		3	3	3	3	3	3
Fan Shaft Diameter (in.)		1 3/16	1 3/16	1 3/16	1 3/16	1 3/16	1 3/16
Factory Speed Setting (Rpm)		549	546	704	694	733	733
FURNACE SECTION							
Rollout Switch Cutout Temp (F)		225	225	225	225	225	225
Burner Orifice Diameter (in...drill size)	HIGH/LOW HEAT	0.136″-#29	0.136″-#29	0.136″-#29	0.136″-#29	0.136″-#29	0.136″-#29
Burner Orifice Diameter (in...drill size)	MEDIUM HEAT	—	—	0.1285″-#30	0.1285″-#30	0.1285″-#30	0.1285″-#30
Gas		Natural	Natural	Natural	Natural	Natural	Natural
Thermostat Heat Anticipator Setting							
Stage 1 (amps)		0.98	0.98	0.98	0.98	0.98	0.98
Stage 2 (amps)		0.44	0.44	0.44	0.44	0.44	0.44
Gas Input (Btuh) HIGH HEAT	Stage 1	224,000	224,000	317,000	317,000	317,000	317,000
	Stage 2	296,000	296,000	400,000	400,000	400,000	400,000
Efficiency (Steady State) %	Downshot	82	82	82	82	82	82
Temperature Rise Range		25-55	25-55	25-55	25-55	25-55	25-55
Gas Input (Btuh) MEDIUM HEAT	Stage 1	NA	NA	281,000	281,000	281,000	281,000
	Stage 2	NA	NA	365,000	365,000	365,000	365,000
Efficiency (Steady state) %	Downshot	NA	NA	81	81	81	81
Temperature Rise Range		NA	NA	25-55	25-55	25-55	25-55
Gas Input (BTUH) LOW HEAT	Stage 1	199,000	199,000	199,000	199,000	199,000	199,000
	Stage 2	250,000	250,000	250,000	250,000	250,000	250,000
Efficiency (Steady state) %	Downshot	82	82	82	82	82	82
Temperature Rise Range		15-45	15-45	15-45	15-45	15-45	15-45
Manifold Pressure							
Natural Gas (in. wg)	Downshot	3.00	3.00	3.00	3.00	3.00	3.00
Natural Gas (in. wg)	Sideshot	2.95	2.95	2.95	2.95	2.95	2.95
Gas Valve Quantity		1	1	1	1	1	1
Gas Valve Pressure Range	(in. wg)	5.5-13.0	5.5-13.0	5.5-13.0	5.5-13.0	5.5-13.0	5.5-13.0
Min-Max Allowable	(psig)	.235-.469	.235-.469	.235-.469	.235-.469	.235-.469	.235-.469
Field Gas Connection Size (in...FPT)		3/4	3/4	3/4	3/4	3/4	3/4
HIGH PRESSURE SWITCHES (psig)							
Cutout		426	426	426	426	426	426
Reset (Auto)		320	320	320	320	320	320
OUTDOOR AIR INLET SCREENS							
Quantity...Size (in.)		3...20x25	3...20x25	3...20x25	3...20x25	3...20x25	3...20x25
RETURN AIR FILTERS							
Quantity...Size (in.)		9...16x25	9...16x25	9...16x25	9...16x25	9...16x25	9...16x25

LEGEND

Bhp — Brake Horsepower
TXV — Thermostatic Expansion Valve

UNIT 48HG		024		028
VOLTAGE		208/230 and 460	575	ALL
NOMINAL CAPACITY (Tons)		20	20	25
OPERATING WEIGHT (lb)				
48 SERIES (Low Heat)		2272	2272	2526
COMPRESSOR				
Quantity		3	3	2
Number of Refrigerant Circuits		3	3	2
Oil (ounces) Ckt A...Ckt B...Ckt C		72...72...72	72...72...72	110...110...NA
REFRIGERANT TYPE		R-22		
Expansion Device		TXV	TXV	TXV
Operating Charge (lb)				
Circuit A		13.8	13.8	23.9
Circuit B		13.7	13.7	21.5
Circuit C		15.5	15.5	NA
CONDENSER COIL				
Rows...Fins/inch		2...17	2...17	2...17
Total Face area (sq. ft)		57.78	57.78	66.67
CONDENSER FAN				
Nominal Cfm (Total, all fans)		14,000	14,000	21,000
Quantity...Diameter (in.)		4...22	4...22	6...22
Motor HP...Rpm		1/4...1100	1/4...1100	1/4...1100
Watts input (Total)		1400	1400	2100
EVAPORATOR COIL		Face Split		
Rows...Fins/inch		4...15	4...15	4...15
Total Face area (sq. ft)		23.33	23.33	27.22
EVAPORATOR FAN				
Quantity...Size		2...15x11	2...15x11	2...15x11
Type Drive		Belt	Belt	Belt
Nominal Cfm		8000	8000	10,000
Std Motor Hp		5	5	7 1/2
Opt Motor Hp		7 1/2	7 1/2	10
Motor Nominal Rpm		1725	1725	1725
Std Maximum Continuous Bhp		5.75	5.75	8.63
Std Maximum Continuous Watts		4290	4290	6438
Alt Maximum Continuous Bhp		8.63	8.63	11.50
Alt Maximum Continuous Watts		6438	6438	8579
Motor Frame Size	Standard	S184T	184T	S213T
Motor Frame Size	Alternate	S213T	S213T	S215T
Fan Drive Rpm Range	Std motor/Std drive	658-808	658-808	799-965
	Std motor/Alt drive	794-974	794-974	939-1152
	Alt motor/Std drive	949-1145	949-1145	945-1187
	Alt motor/Alt drive	1126-1328	1126-1328	1152-1366
Motor Bearing Type		Ball	Ball	Ball
Maximum Allowable Rpm		1400	1400	1400
Motor Pulley Pitch Diameter	Std motor/Std drive	4.3-5.3	4.3-5.3	5.4-6.6
	Std motor/Alt drive	4.3-5.3	4.3-5.3	4.2-5.2
	Alt motor/Std drive	5.4-6.6	5.4-6.6	4.2-5.2
	Alt motor/Alt drive	5.5-6.5	5.5-6.5	5.2-6.2
Motor Shaft Diameter (in.)	Standard	1 1/8	1 1/8	1 3/8
Motor Shaft Diameter (in.)	Alternate	1 3/8	1 3/8	1 3/8
Belt, Quantity...Type...Length (in.)	Std motor/Std drive	1...BX...46	1...BX...46	1...BX...50
	Std motor/Alt drive	1...BX...42	1...BX...42	2...AX...38
	Alt motor/Std drive	1...BX...46	1...BX...46	2...BX...38
	Alt motor/Alt drive	1...BX...42	1...BX...42	2...BX...38
Pulley center line distance (in.)		10.0-12.2	10.0-12.2	9.6-12.0
Speed change per full turn of moveable pulley flange (Rpm)	Std motor/Std drive	25	25	28
	Std motor/Alt drive	30	30	36
	Alt motor/Std drive	33	33	40
	Alt motor/Alt drive	34	34	36
Moveable pulley maximum full turns from closed position		6	6	6
Factory Pulley Setting (turns from closed position)		3	3	3
Fan Shaft Diameter (in.)		1 3/16	1 3/16	1 3/16
Factory Speed Setting (Rpm)		733	733	882
FURNACE SECTION				
Rollout switch cutout Temp (F)		225	225	225
Burner orifice diameter (in...drill size)	HIGH/LOW HEAT	0.136″-#29	0.136″-#29	0.136″-#29
Burner orifice diameter (in...drill size)	MEDIUM HEAT	0.1285″-#30	0.1285″-#30	0.1285″-#30
Gas		Natural	Natural	Natural
Thermostat Heat anticipator setting				
Stage 1 (amps)		0.98	0.98	0.98
Stage 2 (amps)		0.44	0.44	0.44
Gas Input (Btuh) HIGH HEAT	Stage 1	317,000	317,000	317,000
	Stage 2	400,000	400,000	400,000
Efficiency (Steady state) %	Downshot	82	82	82
Temperature Rise Range		25-55	25-55	25-55
Gas Input (Btuh) MEDIUM HEAT	Stage 1	281,000	281,000	281,000
	Stage 2	365,000	365,000	365,000
Efficiency (Steady state) %	Downshot	81	81	81
Temperature Rise Range		25-55	25-55	25-55
Gas Input (Btuh) LOW HEAT	Stage 1	199,000	199,000	199,000
	Stage 2	250,000	250,000	250,000
Efficiency (Steady state) %	Downshot	82	82	82
Temperature Rise Range		15-45	15-45	15-45
Manifold Pressure				
Natural Gas (in. wg)	Downshot	3.00	3.00	3.00
Natural Gas (in. wg)	Sideshot	2.95	2.95	2.95
Gas Valve Quantity		1	1	1
Gas Valve Pressure Range	(in. wg)	5.5-13.0	5.5-13.0	5.5-13.0
Min-Max Allowable	(psig)	.235-.469	.235-.469	.235-.469
Field Gas Connection Size (in...FPT)		3/4	3/4	3/4
HIGH PRESSURE SWITCHES (psig)				
Cutout		426	426	426
Reset (Auto)		320	320	320
OUTDOOR AIR INLET SCREENS				
Quantity...Size (in.)		3...20x25	3...20x25	3...20x25
RETURN AIR FILTERS				
Quantity...Size (in.)		9...16x25	9...16x25	9...20x25

LEGEND

Bhp — Brake Horsepower
TXV — Thermostatic Expansion Valve

Physical data — 50HG014-028 units

UNIT 50HG		014		016		020	
VOLTAGE		208/230 and 460	575	208/230 and 460	575	208/230 and 460	575
NOMINAL CAPACITY (Tons)		13	13	15	15	17.5	17.5
OPERATING WEIGHT (lb)							
50 SERIES (Cooling Only)		2017	2017	2111	2111	2139	2139
COMPRESSOR							
Quantity		2	2	3	3	3	3
Number of Refrigerant Circuits		2	2	3	3	3	3
Oil (ounces) Ckt A...Ckt B...Ckt C		72...72...NA	72...72...NA	68...68...68	68...68...68	68...68...72	68...68...72
REFRIGERANT TYPE		R-22					
Expansion Device		TXV	TXV	TXV	TXV	TXV	TXV
Operating Charge (lb)							
Circuit A		19.6	19.6	13.2	13.2	13.1	13.1
Circuit B		18.3	18.3	12.2	12.2	12.7	12.7
Circuit C		NA	NA	15.4	15.4	15.2	15.2
CONDENSER COIL							
Rows...Fins/inch		2...17	2...17	2...17	2...17	2...17	2...17
Total Face area (sq. ft)		57.78	57.78	57.78	57.78	57.78	57.78
CONDENSER FAN							
Nominal Cfm (Total, all fans)		14,000	14,000	14,000	14,000	14,000	14,000
Quantity...Diameter (in.)		4...22	4...22	4...22	4...22	4...22	4...22
Motor HP...RPM		$^{1}/_{4}$...1100	$^{1}/_{4}$...1100	$^{1}/_{4}$...1100	$^{1}/_{4}$...1100	$^{1}/_{4}$...1100	$^{1}/_{4}$...1100
Watts input (Total)		1400	1400	1400	1400	1400	1400
EVAPORATOR COIL		Face Split					
Rows...Fins/inch		3...15	3...15	3...15	3...15	3...15	3...15
Total Face area (sq. ft)		23.33	23.33	23.33	23.33	23.33	23.33
EVAPORATOR FAN							
Quantity...Size		2...15x11	2...15x11	2...15x11	2...15x11	2...15x11	2...15x11
Type Drive		Belt	Belt	Belt	Belt	Belt	Belt
Nominal Cfm		5000	5000	6000	6000	7000	7000
Std Motor Hp		3.7	3	3.7	3	5	5
Opt Motor Hp		5	5	5	5	7 1/2	7 1/2
Motor Nominal Rpm		1725	1725	1725	1725	1725	1725
Std Maximum Continuous Bhp		4.25	3.45	4.25	3.45	5.75	5.75
Std Maximum Continuous Watts		3171	2574	3171	2574	4290	4290
Alt Maximum Continuous Bhp		5.75	5.75	5.75	5.75	8.63	8.63
Alt Maximum Continuous Watts		4290	4290	4290	4290	6438	6438
Motor Frame Size	Standard	56HZ	56H	56HZ	56H	S184T	184T
Motor Frame Size	Alternate	S184T	184T	S184T	184T	S213T	S213T
Fan Drive Rpm Range	Std motor/Std drive	485-613	472-619	618-789	609-778	658-808	658-808
	Std motor/Alt drive	618-789	609-778	485-613	472-619	794-974	794-974
	Alt motor/Std drive	778-1021	778-1021	778-1021	778-1021	949-1145	949-1145
	Alt motor/Alt drive	1000-1227	1000-1227	1000-1227	1000-1227	1126-1328	1126-1328
Motor Bearing Type		Ball	Ball	Ball	Ball	Ball	Ball
Maximum Allowable Rpm		1400	1400	1400	1400	1400	1400
Motor Pulley Pitch Diameter	Std motor/Std drive	3.7-4.7	3.1-4.1	3.4-4.4	3.4-4.4	4.3-5.3	4.3-5.3
	Std motor/Alt drive	3.4-4.4	3.4-4.4	3.7-4.7	3.1-4.1	4.3-5.3	4.3-5.3
	Alt motor/Std drive	3.1-4.1	3.1-4.1	3.1-4.1	3.1-4.1	5.4-6.6	5.4-6.6
	Alt motor/Alt drive	4.3-5.3	4.3-5.3	4.3-5.3	4.3-5.3	5.5-6.5	5.5-6.5
Motor Shaft Diameter (in.)	Standard	$^{7}/_{8}$	$^{7}/_{8}$	$^{7}/_{8}$	$^{7}/_{8}$	1$^{1}/_{8}$	1$^{1}/_{8}$
Motor Shaft Diameter (in.)	Alternate	1$^{1}/_{8}$	1$^{1}/_{8}$	1$^{1}/_{8}$	1$^{1}/_{8}$	1$^{3}/_{8}$	1$^{3}/_{8}$
Belt, Quantity...Type...Length (in.)	Std motor/Std drive	1...BX...51	1...BX...48	1...A...45	1...A...45	1...BX...46	1...BX...46
	Std motor/Alt drive	1...A...45	1...A...45	1...BX...51	1...BX...48	1...BX...42	1...BX...42
	Alt motor/Std drive	1...BX...38	1...BX...38	1...BX...38	1...BX...38	1...BX...46	1...BX...46
	Alt motor/Alt drive	1...B...38	1...B...38	1...B...38	1...B...38	1...BX...42	1...BX...42
Pulley center line distance (in.)		11.3-12.3	11.3-12.3	11.3-12.3	11.3-12.3	10.0-12.2	10.0-12.2
Speed change per full turn of moveable pulley flange (Rpm)	Std motor/Std drive	21	25	29	28	25	25
	Std motor/Alt drive	29	28	21	25	30	30
	Alt motor/Std drive	41	41	41	41	33	33
	Alt motor/Alt drive	38	38	38	38	34	34
Moveable pulley maximum (full turns from closed position)		6	6	6	6	6	6
Factory Pulley Setting (turns from closed position)		3	3	3	3	3	3
Fan Shaft Diameter (in.)		1$^{3}/_{16}$	1$^{3}/_{16}$	1$^{3}/_{16}$	1$^{3}/_{16}$	1$^{3}/_{16}$	1$^{3}/_{16}$
Factory Speed Setting (Rpm)		549	546	704	694	733	733
HIGH PRESSURE SWITCHES (psig)							
Cutout		426	426	426	426	426	426
Reset (Auto)		320	320	320	320	320	320
OUTDOOR AIR INLET SCREENS							
Quantity...Size (in.)		3...20x25	3...20x25	3...20x25	3...20x25	3...20x25	3...20x25
RETURN AIR FILTERS							
Quantity...Size (in.)		9...16x25	9...16x25	9...16x25	9...16x25	9...16x25	9...16x25

LEGEND

Bhp — Brake Horsepower
TXV — Thermostatic Expansion Valve

UNIT 50HG		024		028
VOLTAGE		208/230 and 460	575	ALL
NOMINAL CAPACITY (Tons)		20	20	25
OPERATING WEIGHT (lb)				
50 SERIES (Cooling Only)		2187	2187	2446
COMPRESSOR				
Quantity		3	3	2
Number of Refrigerant Circuits		3	3	2
Oil (ounces) Ckt A...Ckt B...Ckt C		72...72...72	72...72...72	110...110...NA
REFRIGERANT TYPE		R-22		
Expansion Device		TXV	TXV	TXV
Operating Charge (lb)				
Circuit A		13.8	13.8	23.9
Circuit B		13.9	13.9	21.5
Circuit C		15.5	15.5	NA
CONDENSER COIL				
Rows...Fins/inch		2...17	2...17	2...17
Total Face Area (sq. ft)		57.78	57.78	66.67
CONDENSER FAN				
Nominal CFM (Total, all fans)		14,000	14,000	21,000
Quantity...Diameter (in.)		4...22	4...22	6...22
Motor HP...Rpm		$^{1}/_{4}$...1100	$^{1}/_{4}$...1100	$^{1}/_{4}$...1100
Watts input (Total)		1400	1400	2100
EVAPORATOR COIL		Face Split		
Rows...Fins/inch		4...15	4...15	4...15
Total Face Area (sq. ft)		23.33	23.33	27.22
EVAPORATOR FAN				
Quantity...Size		2...15x11	2...15x11	2...15x11
Type Drive		Belt	Belt	Belt
Nominal Cfm		8000	8000	10,000
Std Motor Hp		5	5	7 1/2
Opt Motor Hp		7 1/2	7 1/2	10
Motor Nominal Rpm		1725	1725	1725
Std Maximum Continuous Bhp		5.75	5.75	8.63
Std Maximum Continuous Watts		4290	4290	6438
Alt Maximum Continuous Bhp		8.63	8.63	11.50
Alt Maximum Continuous Watts		6438	6438	8579
Motor Frame Size	**Standard**	S184T	184T	S213T
Motor Frame Size	**Alternate**	S213T	S213T	S215T
Fan Drive Rpm Range	**Std motor/Std drive**	658-808	658-808	799-965
	Std motor/Alt drive	794-974	794-974	939-1152
	Alt motor/Std drive	949-1145	949-1145	945-1187
	Alt motor/Alt drive	1126-1328	1126-1328	1152-1366
Motor Bearing Type		Ball	Ball	Ball
Maximum Allowable Rpm		1400	1400	1400
Motor Pulley Pitch Diameter	**Std motor/Std drive**	4.3-5.3	4.3-5.3	5.4-6.6
	Std motor/Alt drive	4.3-5.3	4.3-5.3	4.2-5.2
	Alt motor/Std drive	5.4-6.6	5.4-6.6	4.2-5.2
	Alt motor/Alt drive	5.5-6.5	5.5-6.5	5.2-6.2
Motor Shaft Diameter (in.)	**Standard**	$1^{1}/_{8}$	$1^{1}/_{8}$	$1^{3}/_{8}$
Motor Shaft Diameter (in.)	**Alternate**	$1^{3}/_{8}$	$1^{3}/_{8}$	$1^{3}/_{8}$
Belt, Quantity...Type...Length (in.)	**Std motor/Std drive**	1...BX...46	1...BX...46	1...BX...50
	Std motor/Alt drive	1...BX...42	1...BX...42	2...AX...38
	Alt motor/Std drive	1...BX...46	1...BX...46	2...BX...38
	Alt motor/Alt drive	1...BX...42	1...BX...42	2...BX...38
Pulley center line distance (in.)		10.0-12.2	10.0-12.2	9.6-12.0
Speed change per full turn of moveable pulley flange (Rpm)	**Std motor/Std drive**	25	25	28
	Std motor/Alt drive	30	30	36
	Alt motor/Std drive	33	33	40
	Alt motor/Alt drive	34	34	36
Moveable pulley maximum (full turns from closed position)		6	6	6
Factory Pulley Setting (turns from closed position)		3	3	3
Fan Shaft Diameter (in.)		$1^{3}/_{16}$	$1^{3}/_{16}$	$1^{3}/_{16}$
Factory Speed Setting (Rpm)		733	733	882
HIGH PRESSURE SWITCHES (psig)				
Cutout		426	426	426
Reset (Auto)		320	320	320
OUTDOOR AIR INLET SCREENS				
Quantity...Size (in.)		3...20x25	3...20x25	3...20x25
RETURN AIR FILTERS				
Quantity...Size (in.)		9...16x25	9...16x25	9...20x25

LEGEND

Bhp — Brake Horsepower
TXV — Thermostatic Expansion Valve

Options and accessories

ITEM	OPTION*	ACCESSORY†
Economizer	X	X
Two-Position Damper		X
Power Exhaust	X	X
Barometric Relief	X	X
Stainless Steel Heat Exchanger (48HG Only)	X	
Hail Guard		X
Horizontal Airflow	X	
Horizontal Conversion Kit	X	X
Liquified Propane (LP) Conversion Kit (48HG Only)		X
CO_2 Sensor	X	X
Smoke Detector	X	X
Filter Status	X	X
Fan Status		X
Non-Fused Disconnect	X	
GFI 115-V Convenience Outlet	X	
Enthalpy Sensor		X
Differential Enthalpy Sensor		X
Electric Heat (50HG Only)	X	X
30% Pleated Filters (2-in.)	X	
4-in. Filter Capability	X	
Condenser and Evaporator Coil Options	X	
Standard Motor with Optional Drive	X	
Alternate Motor with Standard Drive	X	
Alternate Motor with Optional Drive	X	
14-in. Full Perimeter Curb		X
24-in. Full Perimeter Curb		X
Thermostats and Subbases		X
Electronic Programmable Thermostat		X

*Factory-installed. †Field-installed.

NOTE: Refer to 48/50HG price pages or contact your local representative for accessory and option package information.

WEIGHT ADDERS

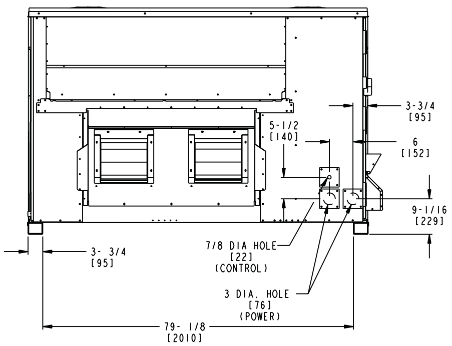
OPTION/ACCESSORY	OPTION/ACCESSORY WEIGHTS									
	48/50HG014		48/50HG016		48/50HG020		48/50HG024		48/50HG028	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Barometric Relief Damper	50	23	50	23	50	23	50	23	50	23
Power Exhaust	125	57	125	57	125	57	125	57	125	57
Electric Heater	85	39	85	39	85	39	85	39	85	39
Economizer	170	77	170	77	170	77	170	77	195	88
Cu Condenser Coils	146	66	146	66	146	66	146	66	174	79
Cu Condenser and Evaporator Coils	248	112	248	112	248	112	286	130	337	153
5 Cell Gas Heat Assembly*	85	39	85	39	85	39	85	39	85	39
6 Cell Gas Heat Assembly*	94	43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8 Cell Gas Heat Assembly*	N/A	N/A	113	51	113	51	113	51	113	51
Roof Curb (14 in.)	210	95	210	95	210	95	210	95	210	95
Optional Indoor Fan Motor (adder)	33	15	33	15	28	13	28	13	20	9
Two-Position Damper	45	20	45	20	45	20	45	20	45	20
Hail Guard	85	39	85	39	85	39	85	39	100	45
Horizontal Airflow	110	50	110	50	110	50	110	50	110	50
CO_2 sensor	5	2	5	2	5	2	5	2	5	2
Return Smoke Detector	5	2	5	2	5	2	5	2	5	2
Plugged Filter Indicator	2	1	2	1	2	1	2	1	2	1
Fan Status	2	1	2	1	2	1	2	1	2	1
Non-Fused Disconnect	15	7	15	7	15	7	15	7	15	7
Convenience outlet	20	9	20	9	20	9	20	9	20	9
Enthalpy Sensor	2	1	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1	3	1
4-in. Filter Capability	10	4	10	4	10	4	10	4	10	4

NOTE: All weights do not include packaging.

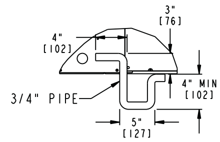
*For both Aluminum and Stainless Steel heat exchangers.

Base unit dimensions — 48HG014-028

UNIT SIZE	OPERATING WEIGHT LOW GAS (48HGD)	UNIT HEIGHT	CENTER OF GRAVITY LOCATION			CORNER WEIGHT LB [KG]			
		W	X	Y	Z				
	LB [KG]	IN [MM]	IN [MM]	IN [MM]	IN [MM]	A	B	C	D
HG028	2526 [1146]	70-1/8 [1781]	68 [1727]	34-1/2 [876]	34-1/2 [876]	662 [300]	859 [390]	434 [198]	571 [260]



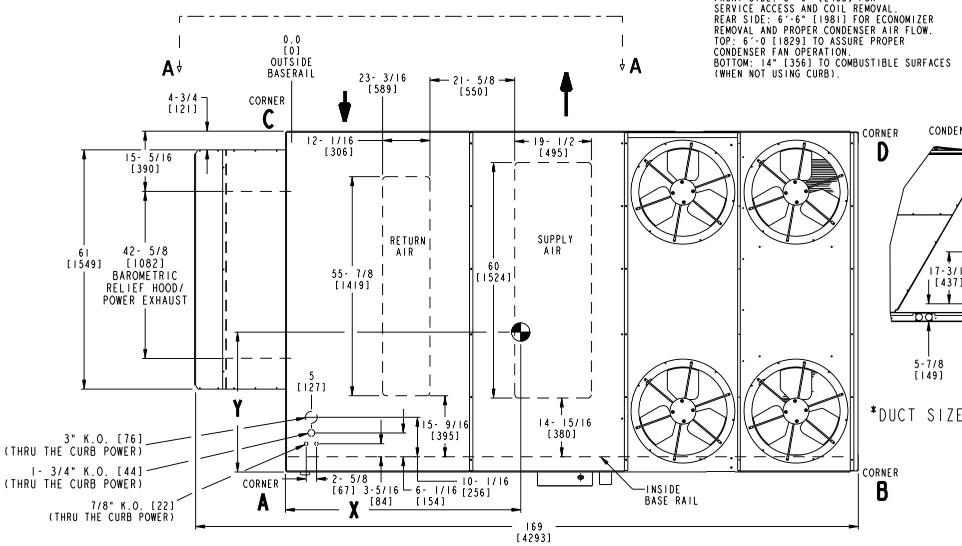
LEFT SIDE

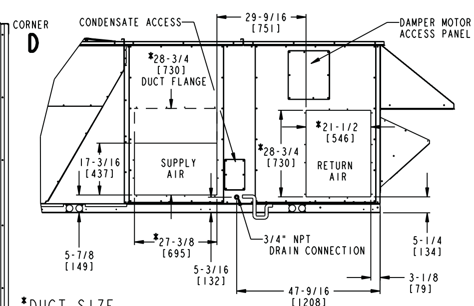


UNIT SIZE	OPERATING WEIGHT LOW GAS (48HGD)	UNIT HEIGHT	CENTER OF GRAVITY LOCATION			CORNER WEIGHT LB [KG]			
		W	X	Y	Z				
	LB [KG]	IN [MM]	IN [MM]	IN [MM]	IN [MM]	A	B	C	D
HG014	2102 [953]	58-1/8 [1476]	65-1/2 [1664]	35 [889]	30 [762]	549 [249]	703 [319]	373 [169]	477 [216]
HG016	2196 [996]	58-1/8 [1476]	64 [1626]	34 [864]	29-1/2 [749]	599 [272]	737 [334]	386 [175]	474 [215]
HG020	2224 [1008]	58-1/8 [1476]	64-1/2 [1638]	33-1/2 [851]	30 [762]	610 [277]	751 [341]	387 [176]	476 [216]
HG024	2272 [1030]	58-1/8 [1476]	64 [1626]	34 [864]	30 [762]	625 [283]	760 [345]	400 [181]	487 [221]

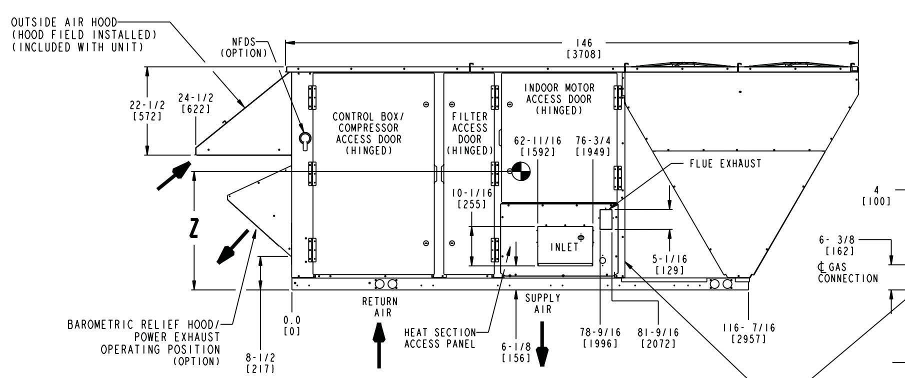
NOTES:
1. WEIGHTS SHOWN ARE FOR 48HG (LOW HEAT) UNIT WITH MANUAL 25% OUTDOOR AIR OPTION, ALUMINUM COILS, AND STANDARD DRIVE. FOR WEIGHTS OF OPTIONAL EQUIPMENT CONSULT PRODUCT DATA BOOK.
2. DO NOT LOCATE ADJACENT UNITS WITH FLUE DISCHARGE FACING ECONOMIZER INLET.
   MIN. CLEARANCES TO BE :
   ADJACENT UNITS: 15′-0" [4572]
   RIGHT SIDE: 6′-0" [1830] FOR PROPER CONDENSER AIR FLOW. 4′-0" [1219] TO COMBUSTIBLE SURFACES. ALL FOUR SIDES (INCLUDES BETWEEN UNITS)
   LEFT SIDE: 10′-0" [3048] FOR PROPER ECONOMIZER AIR FLOW.
   FRONT SIDE: 8′-0" [2438] FOR SERVICE ACCESS AND COIL REMOVAL.
   REAR SIDE: 6′-6" [1981] FOR ECONOMIZER REMOVAL AND PROPER CONDENSER AIR FLOW.
   TOP: 6′-0 [1829] TO ASSURE PROPER CONDENSER FAN OPERATION.
   BOTTOM: 14" [356] TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB).
3. FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES, CONTACT CARRIER APPLICATION ENGINEERING DEPARTMENT.
4. DOWN SHOT DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THE DUCTS MUST BE SUPPORTED BY CROSS BRACES AS DONE ON ACCESSORY ROOF CURB.
5. DIMENSIONS IN [ ] ARE IN MILLIMETERS OR KILOGRAMS.
6. WITH THE EXCEPTION OF CLEARANCE FOR THE CONDENSER COIL AND THE DAMPER/POWER EXHAUST AS STATED IN NOTE #2, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. DIMENSIONS ARE FROM OUTSIDE OF BASE RAIL. ALLOW 0- 5/16 [8] ON EACH SIDE FOR TOP COVER DRIP EDGE.

DIRECTION OF AIRFLOW
CENTER OF GRAVITY

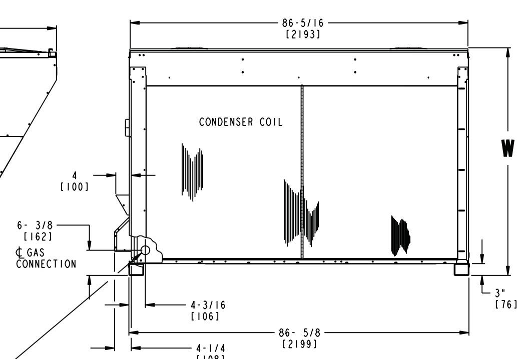




VIEW A-A



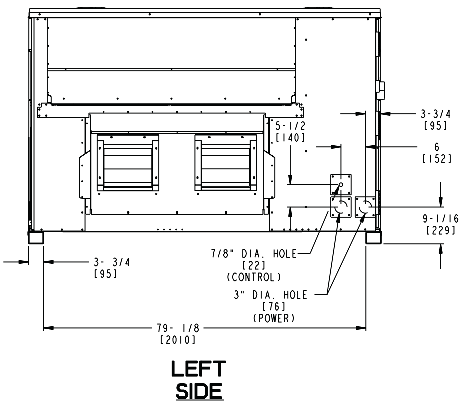
FRONT

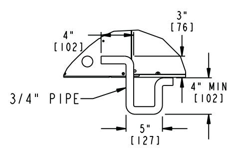


RIGHT SIDE

Base unit dimensions — 50HG014-028

UNIT SIZE	OPERATING WT. WITHOUT HEAT (50HG)	UNIT HEIGHT	CENTER OF GRAVITY LOCATION			CORNER WEIGHT LB [KG]			
		W	X	Y	Z				
	LB [KG]	IN [MM]	IN [MM]	IN [MM]	IN [MM]	A	B	C	D
HG028	2446 [1109]	70-1/8 [1781]	68 [1727]	35 [889]	35 [889]	634 [288]	823 [374]	430 (195)	559 [254]



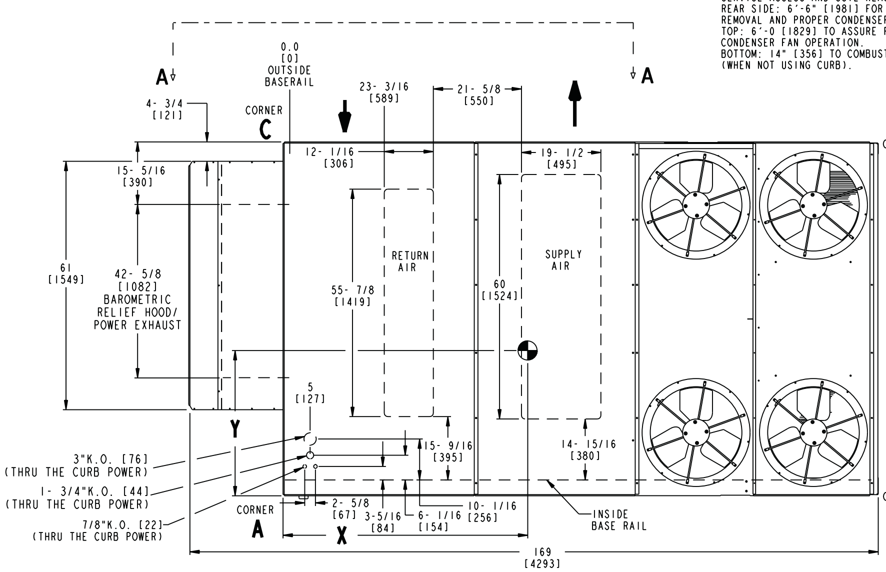


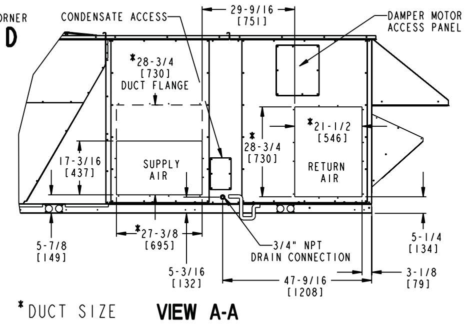
UNIT SIZE	OPERATING WT. WITHOUT HEAT (50HG)	UNIT HEIGHT	CENTER OF GRAVITY LOCATION			CORNER WEIGHT LB [KG]			
		W	X	Y	Z				
	LB [KG]	IN [MM]	IN [MM]	IN [MM]	IN [MM]	A	B	C	D
HG014	2017 [917]	58-1/8 [1476]	65 [1651]	35-1/2 [902]	31 [787]	523 [237]	666 [302]	364 [165]	464 [210]
HG016	2111 [960]	58-1/8 [1476]	64 [1626]	34-1/2 [876]	30 [762]	573 [260]	700 [318]	377 [171]	461 [209]
HG020	2139 [972]	58-1/8 [1476}	64 [1626]	34 [864]	30-1/2 [775]	583 [264]	714 [324]	378 [171]	464 [210]
HG024	2187 [994]	58-1/8 [1476]	64 [1626]	34-1/2 [876]	30-1/2 [775]	598 [271]	723 [328]	392 [178]	474 [215]

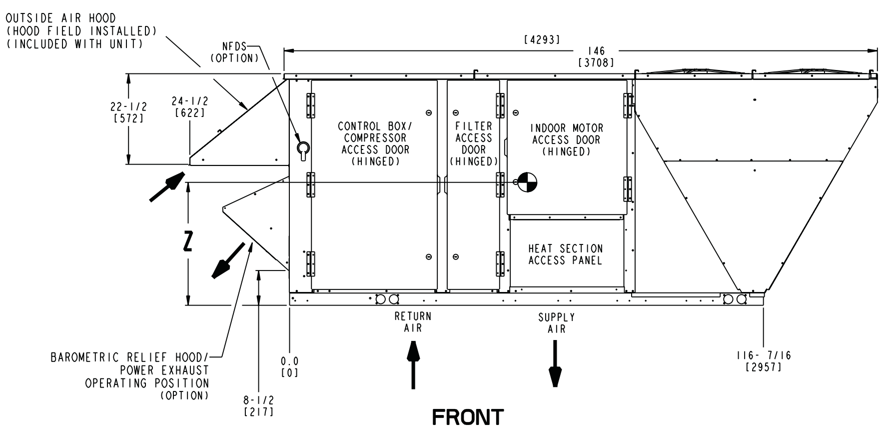
NOTES:

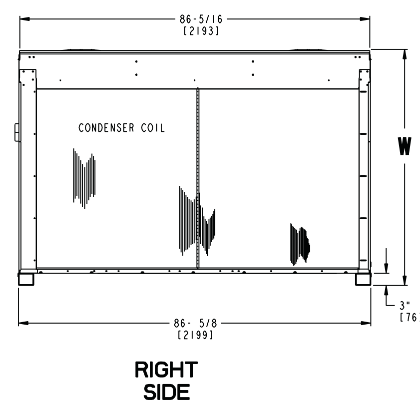
1. WEIGHTS SHOWN ARE FOR 50HG COOLING ONLY UNIT WITH MANUAL 25% OUTDOOR AIR OPTION, ALUMINUM COILS, AND STANDARD DRIVE. FOR WEIGHTS OF OPTIONAL EQUIPMENT CONSULT PRODUCT DATA BOOK.
2. DO NOT LOCATE ADJACENT UNITS WITH FLUE DISCHARGE FACING ECONOMIZER INLET.
   MIN. CLEARANCES TO BE :
   ADJACENT UNITS: 15′-0" [4572]
   RIGHT SIDE: 6′-0" [3048] FOR PROPER CONDENSER AIR FLOW. 4′-0" [1219] TO COMBUSTIBLE SURFACES. ALL FOUR SIDES (INCLUDES BETWEEN UNITS)
   LEFT SIDE: 10′-0" [1830] FOR PROPER ECONOMIZER AIR FLOW.
   FRONT SIDE: 8′-0" [2438] FOR SERVICE ACCESS AND COIL REMOVAL.
   REAR SIDE: 6′-6" [1981] FOR ECONOMIZER REMOVAL AND PROPER CONDENSER AIR FLOW.
   TOP: 6′-0 [1829] TO ASSURE PROPER CONDENSER FAN OPERATION.
   BOTTOM: 14" [356] TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB).
3. FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES, CONTACT CARRIER APPLICATION ENGINEERING DEPARTMENT.
4. DOWN SHOT DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THE DUCTS MUST BE SUPPORTED BY CROSS BRACES AS DONE ON ACCESSORY ROOF CURB.
5. DIMENSIONS IN [ ] ARE IN MILLIMETERS OR KILOGRAMS.
6. WITH THE EXCEPTION OF CLEARANCE FOR THE CONDENSER COIL AND THE DAMPER/POWER EXHAUST AS STATED IN NOTE #2, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. DIMENSIONS ARE FROM OUTSIDE OF BASE RAIL. ALLOW 0- 5/16 [8] ON EACH SIDE FOR TOP COVER DRIP EDGE.
8. A FIELD SUPPLIED 90° ELBOW DUCT MUST BE INSTALLED IN THE SUPPLY DUCTWORK BELOW THE UNIT DISCHARGE CONNECTION.

→ DIRECTION OF AIRFLOW
◐ CENTER OF GRAVITY



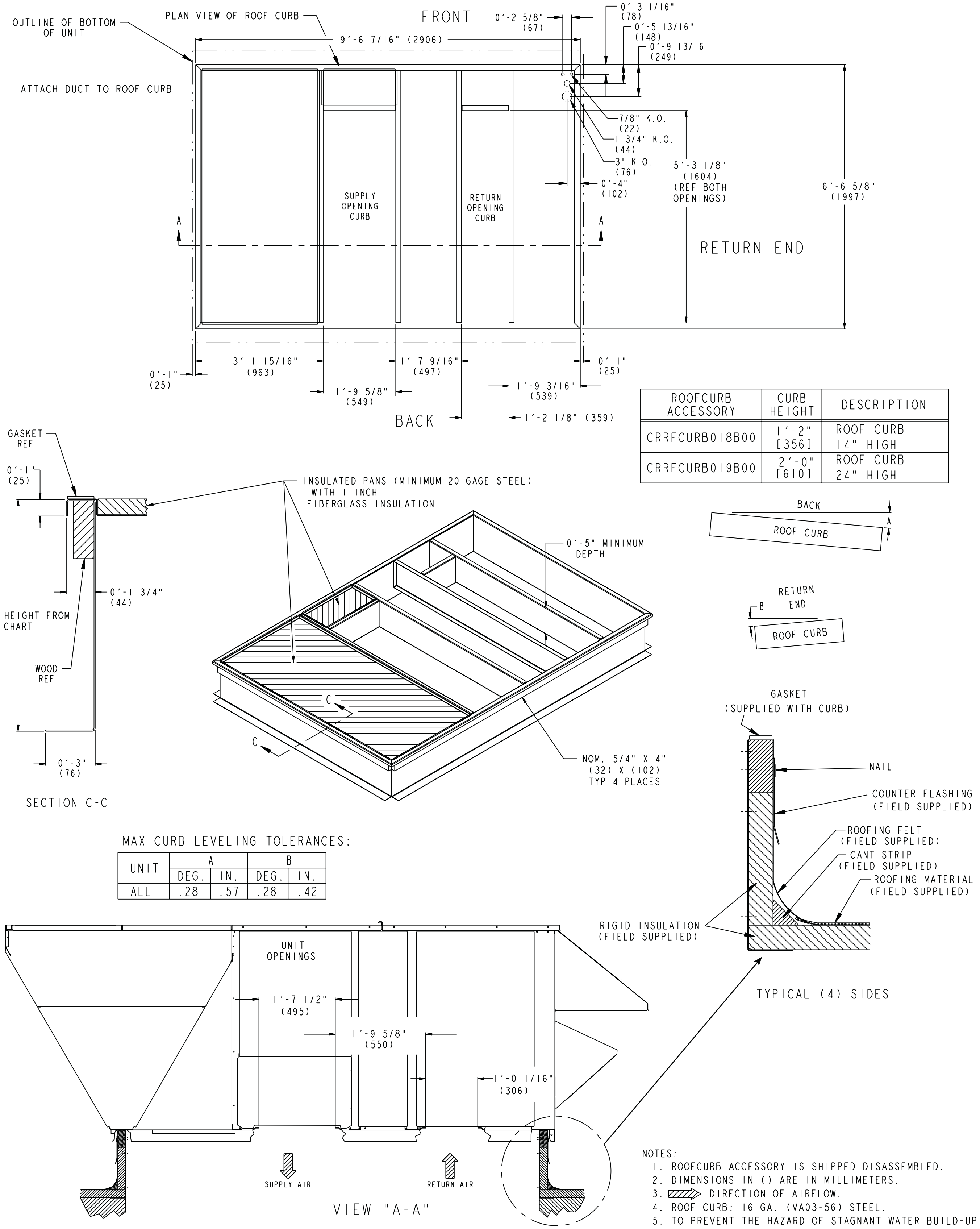






Accessory dimensions

ROOF CURB — FULL PERIMETER CURB



ROOFCURB ACCESSORY	CURB HEIGHT	DESCRIPTION
CRRFCURB018B00	1'-2" [356]	ROOF CURB 14" HIGH
CRRFCURB019B00	2'-0" [610]	ROOF CURB 24" HIGH

MAX CURB LEVELING TOLERANCES:

UNIT	A		B	
	DEG.	IN.	DEG.	IN.
ALL	.28	.57	.28	.42

NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. DIMENSIONS IN ( ) ARE IN MILLIMETERS.
3. ⇨ DIRECTION OF AIRFLOW.
4. ROOF CURB: 16 GA. (VA03-56) STEEL.
5. TO PREVENT THE HAZARD OF STAGNANT WATER BUILD-UP IN THE UNIT DO NOT EXCEED CURB LEVELING TOLERANCES.
6. CLEARANCE BETWEEN UNIT BASE RAIL AND CURB FLANGE IS 1/4-IN. (6 MM) ON EACH SIDE.

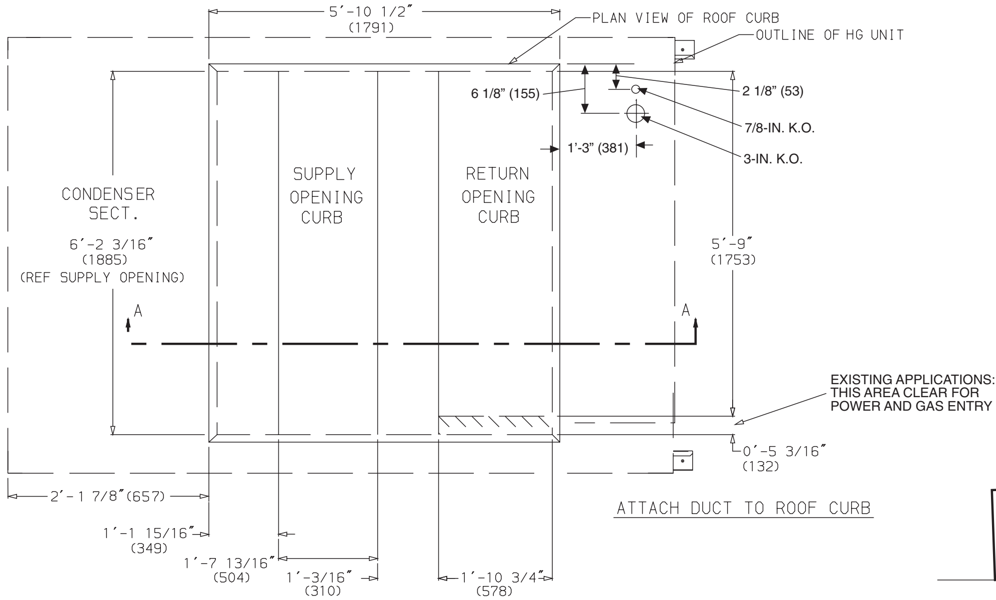
Accessory dimensions (cont)

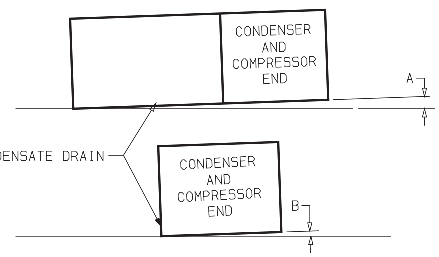
ROOF CURB — EXISTING HJ/TJ RETROFIT INSTALLATIONS

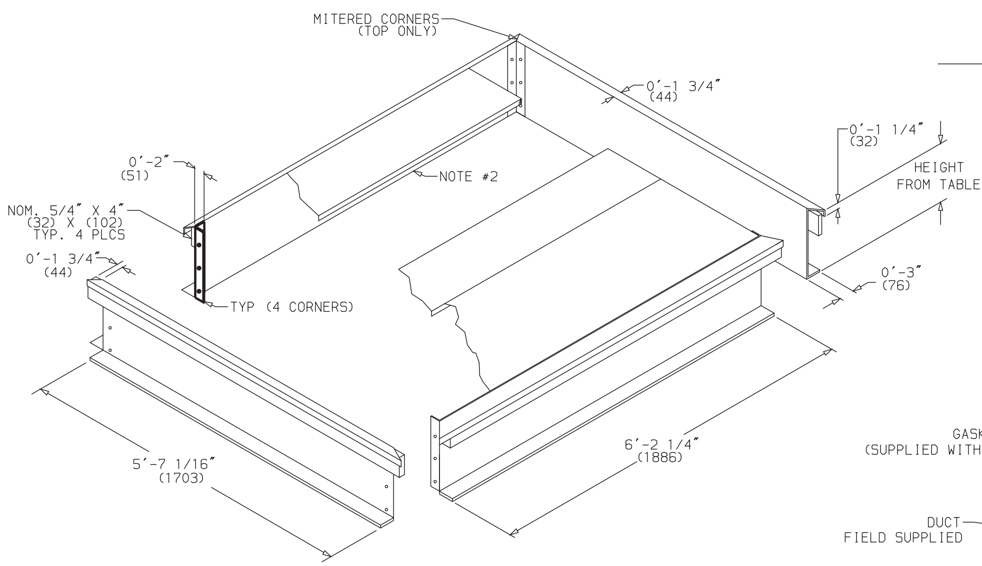
PKG NO. REF.	CURB HEIGHT	DESCRIPTION
CRRFCURB010A00	1′-2″ (305)	Standard Curb 14″ High
CRRFCURB011A00	2′-0″ (610)	Standard Curb for Units Requiring High Installation

NOTES:
1. Roof curb accessory is shipped disassembled.
2. Insulated panels: 1 in. thick neoprene coated 1$^1/_2$ lb density.
3. Dimensions in ( ) are in millimeters.
4. Direction of airflow.
5. Roof curb: 16 ga. (VA03-56) stl.

NOTE: To prevent the hazard of stagnant water build-up in the drain pan of the indoor section, unit can only be pitched as shown.



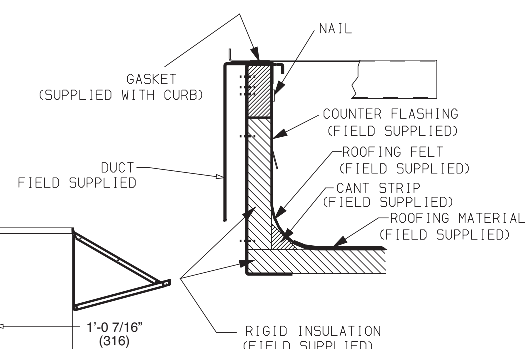


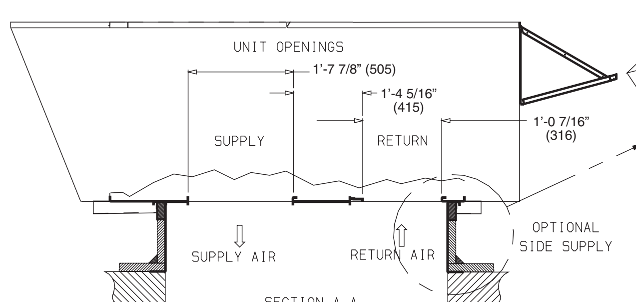


DIMENSIONS* (degrees and inches)

UNIT	A		B	
	DEG.	IN.	DEG.	IN.
ALL	.28	.45	.28	.43

UNIT LEVELING TOLERANCES
*From edge of unit to horizontal.





Selection procedure (with 48HG024 example)

I Determine cooling and heating requirements at design conditions.

Given:

Required Gross Cooling
Capacity (TC) . . . . .229,000 Btuh
Gross Sensible Heat
Capacity (SHC) . . . . .178,000 Btuh
Required Heating Capacity . . . . . . .190,000 Btuh
Condenser Entering Air
Temperature . . . . 95 F Summer
Indoor Air Temperature . . . . . .80 F edb, 67 F ewb
Evaporator Air Quantity. . . . . 8,000 cfm
External Static Pressure . . . . .1.30 in. wg
Electrical Characteristics (V-Ph-Hz) 460-3-60

Optional economizer required. Vertical supply required.

II Select unit based on required cooling capacity.

Enter Cooling Capacities table for 48HG024 at condenser entering temperature of 95 F, evaporator air quantity of 8,000 cfm, and indoor air temperature of 67 F. The 48HG024 unit will provide a total cooling capacity of 261,000 Btuh and a SHC of 195,000 Btuh. For evaporator air temperatures other than 80 F, calculate SHC correction using formula in notes under cooling capacity tables.

Unit meets design conditions for TC and SHC.

NOTE: Unit ratings are gross capacities and do not include the effect of indoor fan motor heat. To calculate net capacities, see Step V.

III Select heating capacity of unit to provide design condition requirement.

In Heating Capacities and Efficiencies table, note that 48HGD024 (low heat) unit will provide 205,000 Btuh with an input of 250,000 Btuh.

IV Determine fan speed and power requirements at design conditions.

Before entering the Fan Performance tables, calculate the total static pressure required based on unit components. Tabulated fan performance includes filters and wet evaporator coil. Refer to Accessory/FIOP Static Pressure — 48/50HG014-028 table for added pressure drops.

Calculate pressure drop:

Design External Static Pressure 1.30
Economizer Static Pressure + 0.10
1.40 in. wg (ESP)

Enter Fan Performance tables for 48HGD024 (low heat units, vertical supply) at 8,000 cfm and 1.40 in. wg. The rpm is 1138 and the Bhp is 6.58. The factory-installed optional 7.5 hp motor and alternate drive are sufficient for this operation.

V Determine net cooling capacities.

Cooling capacities are gross capacities and do not include indoor (evaporator) fan motor (IFM) heat. To determine input power to the motor, enter the Fan Performance tables for 48HGD024 (low heat units) at 8,000 cfm and 1.40 in. wg. Input watts to the motor are 5719.

Determine net cooling capacity and net sensible cooling capacity using the following formulas:

IFM Heat = Input Watts x 3.412 Btuh/Watt
= 5719 x 3.412
= 19,513 Btuh

Net Capacity = Gross Capacity – IFM Heat
= 261,000 – 19,513
= 241,487 Btuh

Net Sensible Cap. = Gross Sensible Cap. – IFM Heat
= 195,000 – 19,513
= 175,487 Btuh

The calculations show that a 48HGD024 unit is the correct selection for the given conditions.

VI Select the unit that corresponds to power source available.

The electrical data table shows that the 460-3-60 unit is available.

Selection procedure (with 50HG016 example)

I Determine cooling and heating requirements at design conditions.

Given:

Required Gross Cooling
Capacity (TC) . . . . .168,000 Btuh
Gross Sensible Heat
Capacity (SHC) . . . . .121,000 Btuh
Required Heating Capacity . . . . . . .127,000 Btuh
Condenser Entering Air Temperature . . . . . . .95 F
Indoor Air Temperature . . . . . .80 F edb, 67 F ewb
Evaporator Air Quantity. . . . . 6,000 cfm
External Static Pressure . . . . .1.45 in. wg
Electrical Characteristics (V-Ph-Hz) 230-3-60

Horizontal supply required.

II Select unit based on required cooling capacity.

Enter Cooling Capacities table for 50HG016 at condenser entering temperature of 95 F, evaporator air quantity of 6,000 cfm, and indoor air temperature of 67 F. The 50HG016 unit will provide a total cooling capacity of 200,000 Btuh and a SHC of 149,000 Btuh. For evaporator air temperatures other than 80 F, calculate SHC correction using formula in notes under cooling capacity tables.

Unit meets design conditions for TC and SHC.

NOTE: Unit ratings are gross capacities and do not include the effect of indoor fan motor heat. To calculate net capacities, see Step V.

III Select electric heat.

Heating load required is 127,000 Btuh.

$$\frac{127{,}000 \text{ Btuh}}{3.412 \text{ Btu/W}} = 37{,}220 \text{ Watts Required} = 37.2 \text{ kW required}$$

Enter the Electric Resistance Heater Data table, on page 7, for the 50HG016 unit at 230-3-60. The 50 kW (46 kW at 230 v) heater most closely satisfies the heat required.

IV Determine fan speed and power requirements at design conditions.

Before entering the Fan Performance tables, calculate the total static pressure required based on unit components. Tabulated fan performance includes filters and wet evaporator coil. Refer to Accessory/FIOP Static Pressure table for added pressure drops.

Enter the Accessory/FIOP Electric Heat Static Pressure — 50HG014-028 Units table at the selected unit size, cfm, and kW heater size to determine heater pressure drop.

Calculate pressure drop:

Design External Static Pressure 1.45
50 kW Heater Static Pressure + 0.04
1.49 in. wg (ESP)

Enter Fan Performance tables for 50HG016 (horizontal supply) at 6,000 cfm and 1.49 in. wg. The rpm is 972 and the Bhp is 3.76 (interpolation required). The factory-installed alternate 5 hp motor and standard drive are sufficient for this operation.

V Determine net cooling capacities.

Cooling capacities are gross capacities and do not include indoor (evaporator) fan motor (IFM) heat. To determine input power to the motor, enter the Fan Performance tables for 50HG016 at 6,000 cfm and 1.49 in. wg. Input watts to the motor are 3270 (interpolation required).

Determine net cooling capacity and net sensible cooling capacity using the following formulas:

IFM Heat = Input Watts x 3.412 Btuh/Watt
= 3270 x 3.412
= 11,157 Btuh

Net Capacity = Gross Capacity – IFM Heat
= 200,000 – 11,157
= 188,843 Btuh

Net Sensible Cap. = Gross Sensible Cap. – IFM Heat
= 149,000 – 11,157
= 137,843 Btuh

The calculations show that a 50HG016 unit with the 50 kW heater is the correct selection for the given conditions.

VI Select the unit that corresponds to power source available.

The electrical data table shows that the 230-3-60 unit is available.

Performance data

COOLING CAPACITIES

48/50HG014 (13 Tons)

Temperature Air Entering Condenser (Edb) (F)		Evaporator Air Quantity — Cfm/BF														
		3750/0.08			4300/0.09			5000/0.11			5625/0.12			6250/0.13		
		Air Temperature Entering Evaporator — Ewb (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	157	169	187	162	177	193	167	181	199	170	185	203	174	188	206
	SHC	133	112	95	145	123	100	155	131	106	165	139	111	172	147	116
	kW	8.7	8.8	9.0	8.7	8.9	9.1	8.8	8.9	9.1	8.8	9.0	9.2	8.9	9.0	9.2
85	TC	152	165	183	158	171	189	162	175	194	165	179	198	169	182	201
	SHC	131	111	93	143	120	99	153	128	104	162	136	109	168	144	114
	kW	9.8	9.9	10.1	9.8	10.0	10.2	9.9	10.0	10.3	9.9	10.1	10.3	10.0	10.1	10.4
95	TC	147	159	177	152	163	182	156	170	187	160	173	190	164	176	193
	SHC	129	110	91	140	112	96	150	127	102	157	134	107	163	142	112
	kW	10.6	10.8	11.0	10.7	10.8	11.0	10.7	10.9	11.1	10.8	10.9	11.2	10.8	11.0	11.2
105	TC	142	155	171	147	158	176	150	164	180	154	167	183	158	169	186
	SHC	126	108	88	137	116	94	146	124	99	153	132	104	158	140	109
	kW	11.7	11.9	12.1	11.7	11.9	12.1	11.8	12.0	12.2	11.9	12.0	12.3	11.9	12.1	12.3
115	TC	136	149	164	141	154	169	144	157	173	148	160	175	153	162	178
	SHC	124	105	86	134	113	91	142	122	97	148	129	101	152	137	106
	kW	12.8	13.0	13.2	12.9	13.1	13.3	13.0	13.2	13.4	13.0	13.2	13.4	13.1	13.2	13.5
125	TC	130	142	157	134	146	161	138	149	164	142	152	166	146	154	168
	SHC	121	102	83	130	111	88	137	118	93	142	126	98	146	134	103
	kW	14.1	14.3	14.5	14.2	14.4	14.6	14.2	14.4	14.7	14.3	14.5	14.7	14.4	14.5	14.7

48/50HG016 (15 Tons)

Temperature Air Entering Condenser (Edb) (F)		Evaporator Air Quantity — Cfm/BF														
		4500/0.02			5250/0.03			6000/0.04			6750/0.04			7500/0.05		
		Air Temperature Entering Evaporator — Ewb (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	184	198	220	191	208	228	196	213	234	201	218	239	205	222	243
	SHC	157	132	111	170	144	118	183	154	125	194	163	131	202	172	136
	kW	10.6	10.7	10.9	10.6	10.8	11.0	10.7	10.9	11.1	10.7	10.9	11.2	10.8	11.0	11.2
85	TC	179	194	215	185	201	222	190	206	228	195	210	233	199	214	236
	SHC	154	131	109	168	141	116	180	151	123	190	160	129	197	169	135
	kW	11.9	12.1	12.3	12.0	12.1	12.4	12.0	12.2	12.5	12.1	12.3	12.5	12.1	12.3	12.6
95	TC	173	187	208	179	192	215	184	200	220	188	204	224	193	207	227
	SHC	152	129	107	165	138	113	177	149	120	185	158	126	192	167	131
	kW	12.9	13.1	13.3	13.0	13.2	13.4	13.0	13.2	13.5	13.1	13.3	13.6	13.2	13.4	13.6
105	TC	167	183	201	172	186	207	177	193	212	181	196	215	186	199	218
	SHC	149	126	104	161	136	110	172	146	117	180	155	122	186	164	128
	kW	14.2	14.4	14.7	14.3	14.5	14.8	14.3	14.6	14.8	14.4	14.6	14.9	14.5	14.7	14.9
115	TC	160	175	193	165	181	199	170	185	203	175	188	206	179	190	209
	SHC	145	123	101	157	133	107	166	143	114	174	152	119	179	161	125
	kW	15.6	15.8	16.1	15.7	15.9	16.2	15.8	16.0	16.3	15.8	16.1	16.3	15.9	16.1	16.4
125	TC	153	167	184	158	172	189	163	176	193	167	179	196	172	181	198
	SHC	142	120	98	153	130	104	161	139	110	167	148	116	172	157	121
	kW	17.1	17.4	17.7	17.2	17.5	17.8	17.3	17.6	17.8	17.4	17.6	17.9	17.5	17.6	17.9

See Legend and Notes on page 21.

Performance data (cont)

COOLING CAPACITIES (cont)

48/50HG020 (17½ Tons)

Temperature Air Entering Condenser (Edb) (F)		Evaporator Air Quantity — Cfm/BF														
		5400/0.03			6300/0.04			7200/0.05			8100/0.06			9000/0.07		
		Air Temperature Entering Evaporator — Ewb (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	203	220	242	211	229	251	217	236	258	221	241	264	227	245	268
	SHC	173	147	123	188	159	131	202	170	138	214	181	144	224	191	151
	kW	11.7	11.9	12.2	11.8	12.1	12.4	11.9	12.2	12.5	11.9	12.2	12.5	12.0	12.3	12.6
85	TC	197	215	236	205	223	245	211	229	250	216	233	255	220	237	260
	SHC	170	145	120	185	156	128	199	167	134	211	177	141	218	187	148
	kW	13.1	13.3	13.7	13.2	13.5	13.8	13.3	13.6	13.9	13.4	13.7	14.0	13.5	13.7	14.1
95	TC	191	207	228	198	214	235	203	221	242	208	225	247	214	229	251
	SHC	167	145	117	182	154	124	196	164	131	205	174	139	212	185	145
	kW	14.3	14.6	14.9	14.4	14.7	15.1	14.5	14.8	15.2	14.6	14.9	15.3	14.7	15.0	15.4
105	TC	185	201	220	191	206	227	196	213	232	201	217	236	206	220	241
	SHC	164	139	114	179	151	121	191	162	128	199	172	134	206	182	142
	kW	15.8	16.1	16.5	15.9	16.2	16.6	16.0	16.3	16.7	16.1	16.4	16.8	16.2	16.5	16.9
115	TC	178	194	213	183	199	219	189	204	224	194	208	227	199	210	230
	SHC	161	137	111	175	147	118	185	158	125	193	168	131	199	178	138
	kW	17.4	17.7	18.1	17.5	17.8	18.2	17.6	17.9	18.3	17.7	18.0	18.4	17.9	18.1	18.5
125	TC	170	186	204	175	191	208	181	195	212	186	198	215	191	200	218
	SHC	158	133	108	170	144	114	179	154	121	186	164	127	191	174	133
	kW	19.1	19.5	19.9	19.2	19.6	20.0	19.4	19.7	20.1	19.5	19.8	20.1	19.6	19.8	20.2

48/50HG024 (20 Tons)

Temperature Air Entering Condenser (Edb) (F)		Evaporator Air Quantity — Cfm/BF														
		6000/0.04			7000/0.05			8000/0.06			9000/0.07			10,000/0.08		
		Air Temperature Entering Evaporator — Ewb (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	240	262	286	249	272	298	257	280	305	262	286	312	270	291	318
	SHC	204	175	145	222	189	155	238	203	163	247	216	172	257	229	180
	kW	14.2	14.6	15.0	14.4	14.8	15.3	14.5	15.0	15.4	14.6	15.1	15.6	14.8	15.2	15.7
85	TC	232	255	279	243	264	289	250	272	294	256	276	301	262	282	308
	SHC	199	172	144	219	187	152	234	200	159	243	211	167	251	225	177
	kW	15.8	16.2	16.7	16.0	16.4	16.9	16.1	16.6	17.1	16.3	16.7	17.2	16.4	16.8	17.4
95	TC	226	246	268	234	256	276	241	261	285	247	266	293	253	271	297
	SHC	197	168	138	214	183	146	227	195	155	235	207	165	242	220	173
	kW	17.5	17.9	18.4	17.7	18.2	18.6	17.9	18.3	18.8	18.0	18.4	19.0	18.2	18.6	19.1
105	TC	219	238	259	226	243	268	233	253	273	239	258	278	245	261	285
	SHC	195	165	134	211	176	143	222	193	150	229	205	159	235	217	169
	kW	19.3	19.8	20.3	19.5	20.0	20.6	19.7	20.2	20.7	19.9	20.3	20.8	20.0	20.4	21.0
115	TC	211	230	252	218	236	259	224	242	264	231	246	268	237	249	272
	SHC	189	162	132	206	175	140	215	188	149	221	199	156	227	212	164
	kW	21.3	21.8	22.4	21.5	22.0	22.7	21.7	22.2	22.8	21.9	22.3	22.9	22.1	22.4	23.0
125	TC	202	220	241	209	226	245	216	231	250	222	235	254	228	238	257
	SHC	183	158	128	199	171	135	206	184	143	213	196	151	217	207	158
	kW	23.4	24.0	24.7	23.7	24.2	24.8	23.9	24.4	25.0	24.1	24.5	25.1	24.3	24.6	25.2

COOLING CAPACITIES (cont)

48/50HG028 (25 Tons)

Temperature Air Entering Condenser (Edb) (F)		Evaporator Air Quantity — Cfm/BF																			
		7500/0.042				8250/0.052				9500/0.062				10,750/0.72				12,000/0.082			
		Air Temperature Entering Evaporator — Ewb (F)																			
		57	**62**	**67**	**72**	**57**	**62**	**67**	**72**	**57**	**62**	**67**	**72**	**57**	**62**	**67**	**72**	**57**	**62**	**67**	**72**
75	**TC**	251	274	300	326	265	289	310	341	280	298	322	349	296	308	330	357	313	317	340	364
	SHC	251	235	201	166	265	260	218	177	280	278	235	187	296	294	253	200	313	305	274	208
	kW	16.4	17.0	17.6	18.2	16.7	17.4	17.9	18.6	17.1	17.6	18.2	18.8	17.5	17.8	18.4	19.0	18.0	18.1	18.6	19.2
85	**TC**	239	266	285	317	263	280	300	332	278	289	312	339	292	297	320	345	306	310	328	352
	SHC	239	233	191	162	263	258	216	175	278	271	235	184	292	283	252	196	306	302	267	206
	kW	17.9	18.7	19.3	19.9	18.5	19.1	19.7	20.4	19.0	19.4	20.0	20.8	19.3	19.6	20.2	21.1	19.8	19.9	20.4	21.3
95	**TC**	236	258	283	310	257	271	291	322	276	281	297	334	281	289	307	340	290	300	316	342
	SHC	236	230	196	160	257	255	207	170	276	276	225	186	281	281	244	195	290	287	265	202
	kW	20.0	20.8	21.4	22.1	20.7	21.2	21.5	22.4	21.3	21.4	21.9	23.0	21.5	21.7	22.1	23.2	21.6	22.0	22.5	23.3
105	**TC**	232	251	274	299	248	260	284	309	261	271	291	316	272	281	297	322	285	287	302	327
	SHC	232	228	193	157	248	247	210	167	261	261	226	176	272	272	245	190	285	285	260	199
	kW	22.0	22.8	23.3	24.3	22.7	23.1	23.7	24.7	23.1	23.4	24.0	25.0	23.6	23.7	24.3	25.2	24.0	24.1	24.4	25.4
115	**TC**	226	239	265	288	237	247	274	298	253	259	281	304	260	266	282	309	273	275	286	313
	SHC	226	223	187	153	237	236	205	164	253	252	222	174	260	260	239	184	273	273	254	193
	kW	24.3	25.1	25.7	26.7	24.8	25.4	26.1	27.1	25.3	25.8	26.4	27.2	25.8	26.0	26.5	27.3	26.1	26.3	26.7	27.4
125	**TC**	221	229	253	275	231	235	259	282	242	246	262	287	253	254	266	292	260	261	269	295
	SHC	221	217	185	148	231	228	201	159	242	242	217	167	253	253	233	178	260	260	248	189
	kW	26.9	27.1	28.0	29.0	27.4	27.5	28.3	29.4	27.8	27.9	28.5	29.6	28.2	28.3	28.7	29.8	28.5	28.6	28.9	29.9

LEGEND AND NOTES FOR COOLING CAPACITY TABLES

LEGEND

BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHC.
   Above 80 F edb, add (corr factor x cfm) to SHC.

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	**78**	**77**	**76**	**75**	**under 75**
	81	*82*	*83*	*84*	*85*	*over 85*
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.
Correction Factor = 1.09 x (1 – BF) x (edb – 80).

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return)

48HGD/K014 (Low Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	460	591	0.68	548	774	0.89	623	951	1.09	692	1126	1.29	755	1301	1.50
4000	499	774	0.89	581	976	1.12	653	1170	1.35	717	1361	1.56	777	1551	1.78
4500	538	990	1.14	617	1212	1.39	685	1423	1.64	746	1630	1.88	803	1835	2.11
5000	579	1243	1.43	654	1485	1.71	719	1715	1.97	778	1938	2.23	832	2158	2.48
5500	621	1536	1.77	693	1798	2.07	755	2045	2.35	811	2285	2.63	864	2520	2.90
6000	664	1871	2.15	732	2152	2.48	792	2417	2.78	846	2673	3.07	897	2925	3.36
6500	707	2250	2.59	772	2550	2.93	830	2834	3.26	883	3106	3.57	932	3373	3.88
7000	751	2676	3.08	813	2994	3.44	869	3295	3.79	920	3585	4.12	967	3868	4.45
7500	795	3150	3.62	855	3487	4.01	909	3805	4.38	958	4112	4.73	1004	4411	5.07
8000	839	3676	4.23	897	4029	4.63	949	4366	5.02	997	4689	5.39	1042	5004	5.75
8500	884	4253	4.89	940	4625	5.32	990	4978	5.73	1037	5318	6.12	1080	5649	6.50

48HGD/K014 (Low Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	814	1476	1.70	871	1650	1.90	924	1825	2.10	975	1999	2.30	1023	2173	2.50
4000	834	1740	2.00	888	1930	2.22	939	2119	2.44	988	2308	2.65	1035	2497	2.87
4500	857	2039	2.35	909	2243	2.58	958	2446	2.81	1005	2650	3.05	1051	2853	3.28
5000	884	2376	2.73	933	2594	2.98	980	2811	3.23	1026	3028	3.48	1070	3244	3.73
5500	913	2753	3.17	960	2984	3.43	1006	3215	3.70	1049	3445	3.96	1092	3674	4.23
6000	945	3172	3.65	990	3417	3.93	1034	3662	4.21	1076	3905	4.49	1117	4147	4.77
6500	978	3636	4.18	1022	3895	4.48	1064	4153	4.78	1104	4409	5.07	1144	4665	5.37
7000	1012	4145	4.77	1055	4419	5.08	1095	4691	5.39	1135	4960	5.70	1173	5229	6.01
7500	1047	4703	5.41	1089	4992	5.74	1128	5277	6.07	1167	5561	6.40	1204	5842	6.72
8000	1084	5311	6.11	1124	5615	6.46	1163	5915	6.80	1200	6211	7.14	1236	6506	7.48
8500	1121	5972	6.87	1160	6290	7.23	1198	6604	7.60	1234	6914	7.95	1269	7223	8.31

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For standard motor with alternate drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

NOTES:

1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

48HGF/M014 (High Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	470	611	0.70	556	791	0.91	630	967	1.11	697	1141	1.31	760	1314	1.51
4000	511	802	0.92	591	1001	1.15	661	1194	1.37	725	1383	1.59	784	1572	1.81
4500	553	1029	1.18	629	1248	1.44	695	1458	1.68	756	1663	1.91	812	1866	2.15
5000	597	1297	1.49	669	1534	1.76	732	1761	2.03	789	1982	2.28	843	2201	2.53
5500	641	1606	1.85	709	1862	2.14	770	2106	2.42	825	2343	2.70	876	2577	2.96
6000	686	1961	2.26	751	2234	2.57	809	2495	2.87	862	2749	3.16	911	2997	3.45
6500	732	2363	2.72	794	2653	3.05	849	2931	3.37	900	3201	3.68	948	3465	3.99
7000	779	2815	3.24	837	3122	3.59	891	3416	3.93	940	3702	4.26	986	3981	4.58
7500	826	3320	3.82	882	3642	4.19	933	3953	4.55	980	4254	4.89	1025	4549	5.23
8000	873	3879	4.46	926	4217	4.85	975	4542	5.22	1021	4860	5.59	1065	5169	5.95
8500	921	4495	5.17	972	4847	5.57	1019	5189	5.97	1063	5521	6.35	1105	5846	6.72

48HGF/M014 (High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	818	1488	1.71	874	1661	1.91	927	1835	2.11	978	2008	2.31	1026	2182	2.51
4000	840	1760	2.02	893	1948	2.24	943	2136	2.46	992	2324	2.67	1039	2512	2.89
4500	865	2068	2.38	915	2270	2.61	964	2472	2.84	1011	2673	3.07	1056	2876	3.31
5000	893	2417	2.78	942	2632	3.03	988	2848	3.28	1033	3063	3.52	1076	3278	3.77
5500	925	2808	3.23	971	3037	3.49	1016	3266	3.76	1059	3494	4.02	1100	3721	4.28
6000	958	3243	3.73	1003	3486	4.01	1045	3728	4.29	1087	3970	4.57	1127	4210	4.84
6500	993	3725	4.28	1036	3982	4.58	1077	4238	4.87	1117	4492	5.17	1156	4745	5.46
7000	1029	4256	4.90	1071	4528	5.21	1111	4797	5.52	1150	5064	5.82	1187	5330	6.13
7500	1067	4838	5.56	1107	5124	5.89	1146	5407	6.22	1184	5688	6.54	1220	5967	6.86
8000	1106	5474	6.30	1145	5774	6.64	1182	6071	6.98	1219	6365	7.32	1254	6657	7.66
8500	1145	6165	7.09	1183	6479	7.45	1220	6790	7.81	1255	7098	8.16	1290	7403	8.51

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For standard motor with alternate drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

48HGD/K016 (Low Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	460	591	0.68	548	774	0.89	623	951	1.09	692	1126	1.29	755	1301	1.50
4000	499	774	0.89	581	976	1.12	653	1170	1.35	717	1361	1.56	777	1551	1.78
4500	538	990	1.14	617	1212	1.39	685	1423	1.64	746	1630	1.88	803	1835	2.11
5000	579	1243	1.43	654	1485	1.71	719	1715	1.97	778	1938	2.23	832	2158	2.48
5500	621	1536	1.77	693	1798	2.07	755	2045	2.35	811	2285	2.63	864	2520	2.90
6000	664	1871	2.15	732	2152	2.48	792	2417	2.78	846	2673	3.07	897	2925	3.36
6500	707	2250	2.59	772	2550	2.93	830	2834	3.26	883	3106	3.57	932	3373	3.88
7000	751	2676	3.08	813	2994	3.44	869	3295	3.79	920	3585	4.12	967	3868	4.45
7500	795	3150	3.62	855	3487	4.01	909	3805	4.38	958	4112	4.73	1004	4411	5.07
8000	839	3676	4.23	897	4029	4.63	949	4366	5.02	997	4689	5.39	1042	5004	5.75
8500	884	4253	4.89	940	4625	5.32	990	4978	5.73	1037	5318	6.12	1080	5649	6.50

48HGD/K016 (Low Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	814	1476	1.70	871	1650	1.90	924	1825	2.10	975	1999	2.30	1023	2173	2.50
4000	834	1740	2.00	888	1930	2.22	939	2119	2.44	988	2308	2.65	1035	2497	2.87
4500	857	2039	2.35	909	2243	2.58	958	2446	2.81	1005	2650	3.05	1051	2853	3.28
5000	884	2376	2.73	933	2594	2.98	980	2811	3.23	1026	3028	3.48	1070	3244	3.73
5500	913	2753	3.17	960	2984	3.43	1006	3215	3.70	1049	3445	3.96	1092	3674	4.23
6000	945	3172	3.65	990	3417	3.93	1034	3662	4.21	1076	3905	4.49	1117	4147	4.77
6500	978	3636	4.18	1022	3895	4.48	1064	4153	4.78	1104	4409	5.07	1144	4665	5.37
7000	1012	4145	4.77	1055	4419	5.08	1095	4691	5.39	1135	4960	5.70	1173	5229	6.01
7500	1047	4703	5.41	1089	4992	5.74	1128	5277	6.07	1167	5561	6.40	1204	5842	6.72
8000	1084	5311	6.11	1124	5615	6.46	1163	5915	6.80	1200	6211	7.14	1236	6506	7.48
8500	1121	5972	6.87	1160	6290	7.23	1198	6604	7.60	1234	6914	7.95	1269	7223	8.31

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For standard motor with alternate drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

48HGE/L016 AND 48HGF/M016 (Medium and High Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	470	611	0.70	556	791	0.91	630	967	1.11	697	1141	1.31	760	1314	1.51
4000	511	802	0.92	591	1001	1.15	661	1194	1.37	725	1383	1.59	784	1572	1.81
4500	553	1029	1.18	629	1248	1.44	695	1458	1.68	756	1663	1.91	812	1866	2.15
5000	597	1297	1.49	669	1534	1.76	732	1761	2.03	789	1982	2.28	843	2201	2.53
5500	641	1606	1.85	709	1862	2.14	770	2106	2.42	825	2343	2.70	876	2577	2.96
6000	686	1961	2.26	751	2234	2.57	809	2495	2.87	862	2749	3.16	911	2997	3.45
6500	732	2363	2.72	794	2653	3.05	849	2931	3.37	900	3201	3.68	948	3465	3.99
7000	779	2815	3.24	837	3122	3.59	891	3416	3.93	940	3702	4.26	986	3981	4.58
7500	826	3320	3.82	882	3642	4.19	933	3953	4.55	980	4254	4.89	1025	4549	5.23
8000	873	3879	4.46	926	4217	4.85	975	4542	5.22	1021	4860	5.59	1065	5169	5.95
8500	921	4495	5.17	972	4847	5.57	1019	5189	5.97	1063	5521	6.35	1105	5846	6.72

48HGE/L016 AND 48HGF/M016 (Medium and High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	818	1488	1.71	874	1661	1.91	927	1835	2.11	978	2008	2.31	1026	2182	2.51
4000	840	1760	2.02	893	1948	2.24	943	2136	2.46	992	2324	2.67	1039	2512	2.89
4500	865	2068	2.38	915	2270	2.61	964	2472	2.84	1011	2673	3.07	1056	2876	3.31
5000	893	2417	2.78	942	2632	3.03	988	2848	3.28	1033	3063	3.52	1076	3278	3.77
5500	925	2808	3.23	971	3037	3.49	1016	3266	3.76	1059	3494	4.02	1100	3721	4.28
6000	958	3243	3.73	1003	3486	4.01	1045	3728	4.29	1087	3970	4.57	1127	4210	4.84
6500	993	3725	4.28	1036	3982	4.58	1077	4238	4.87	1117	4492	5.17	1156	4745	5.46
7000	1029	4256	4.90	1071	4528	5.21	1111	4797	5.52	1150	5064	5.82	1187	5330	6.13
7500	1067	4838	5.56	1107	5124	5.89	1146	5407	6.22	1184	5688	6.54	1220	5967	6.86
8000	1106	5474	6.30	1145	5774	6.64	1182	6071	6.98	1219	6365	7.32	1254	6657	7.66
8500	1145	6165	7.09	1183	6479	7.45	1220	6790	7.81	1255	7098	8.16	1290	7403	8.51

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For standard motor with alternate drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

48HGD/K020 (Low Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	460	591	0.68	548	774	0.89	623	951	1.09	692	1126	1.29	755	1301	1.50
4000	499	774	0.89	581	976	1.12	653	1170	1.35	717	1361	1.56	777	1551	1.78
4500	538	990	1.14	617	1212	1.39	685	1423	1.64	746	1630	1.88	803	1835	2.11
5000	579	1243	1.43	654	1485	1.71	719	1715	1.97	778	1938	2.23	832	2158	2.48
5500	621	1536	1.77	693	1798	2.07	755	2045	2.35	811	2285	2.63	864	2520	2.90
6000	664	1871	2.15	732	2152	2.48	792	2417	2.78	846	2673	3.07	897	2925	3.36
6500	707	2250	2.59	772	2550	2.93	830	2834	3.26	883	3106	3.57	932	3373	3.88
7000	751	2676	3.08	813	2994	3.44	869	3295	3.79	920	3585	4.12	967	3868	4.45
7500	795	3150	3.62	855	3487	4.01	909	3805	4.38	958	4112	4.73	1004	4411	5.07
8000	839	3676	4.23	897	4029	4.63	949	4366	5.02	997	4689	5.39	1042	5004	5.75
8500	884	4253	4.89	940	4625	5.32	990	4978	5.73	1037	5318	6.12	1080	5649	6.50

48HGD/K020 (Low Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	814	1476	1.70	871	1650	1.90	924	1825	2.10	975	1999	2.30	1023	2173	2.50
4000	834	1740	2.00	888	1930	2.22	939	2119	2.44	988	2308	2.65	1035	2497	2.87
4500	857	2039	2.35	909	2243	2.58	958	2446	2.81	1005	2650	3.05	1051	2853	3.28
5000	884	2376	2.73	933	2594	2.98	980	2811	3.23	1026	3028	3.48	1070	3244	3.73
5500	913	2753	3.17	960	2984	3.43	1006	3215	3.70	1049	3445	3.96	1092	3674	4.23
6000	945	3172	3.65	990	3417	3.93	1034	3662	4.21	1076	3905	4.49	1117	4147	4.77
6500	978	3636	4.18	1022	3895	4.48	1064	4153	4.78	1104	4409	5.07	1144	4665	5.37
7000	1012	4145	4.77	1055	4419	5.08	1095	4691	5.39	1135	4960	5.70	1173	5229	6.01
7500	1047	4703	5.41	1089	4992	5.74	1128	5277	6.07	1167	5561	6.40	1204	5842	6.72
8000	1084	5311	6.11	1124	5615	6.46	1163	5915	6.80	1200	6211	7.14	1236	6506	7.48
8500	1121	5972	6.87	1160	6290	7.23	1198	6604	7.60	1234	6914	7.95	1269	7223	8.31

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

48HGE/L020 AND 48HGF/M020 (Medium and High Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	470	611	0.70	556	791	0.91	630	967	1.11	697	1141	1.31	760	1314	1.51
4000	511	802	0.92	591	1001	1.15	661	1194	1.37	725	1383	1.59	784	1572	1.81
4500	553	1029	1.18	629	1248	1.44	695	1458	1.68	756	1663	1.91	812	1866	2.15
5000	597	1297	1.49	669	1534	1.76	732	1761	2.03	789	1982	2.28	843	2201	2.53
5500	641	1606	1.85	709	1862	2.14	770	2106	2.42	825	2343	2.70	876	2577	2.96
6000	686	1961	2.26	751	2234	2.57	809	2495	2.87	862	2749	3.16	911	2997	3.45
6500	732	2363	2.72	794	2653	3.05	849	2931	3.37	900	3201	3.68	948	3465	3.99
7000	779	2815	3.24	837	3122	3.59	891	3416	3.93	940	3702	4.26	986	3981	4.58
7500	826	3320	3.82	882	3642	4.19	933	3953	4.55	980	4254	4.89	1025	4549	5.23
8000	873	3879	4.46	926	4217	4.85	975	4542	5.22	1021	4860	5.59	1065	5169	5.95
8500	921	4495	5.17	972	4847	5.57	1019	5189	5.97	1063	5521	6.35	1105	5846	6.72

48HGE/L020 AND 48HGF/M020 (Medium and High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	818	1488	1.71	874	1661	1.91	927	1835	2.11	978	2008	2.31	1026	2182	2.51
4000	840	1760	2.02	893	1948	2.24	943	2136	2.46	992	2324	2.67	1039	2512	2.89
4500	865	2068	2.38	915	2270	2.61	964	2472	2.84	1011	2673	3.07	1056	2876	3.31
5000	893	2417	2.78	942	2632	3.03	988	2848	3.28	1033	3063	3.52	1076	3278	3.77
5500	925	2808	3.23	971	3037	3.49	1016	3266	3.76	1059	3494	4.02	1100	3721	4.28
6000	958	3243	3.73	1003	3486	4.01	1045	3728	4.29	1087	3970	4.57	1127	4210	4.84
6500	993	3725	4.28	1036	3982	4.58	1077	4238	4.87	1117	4492	5.17	1156	4745	5.46
7000	1029	4256	4.90	1071	4528	5.21	1111	4797	5.52	1150	5064	5.82	1187	5330	6.13
7500	1067	4838	5.56	1107	5124	5.89	1146	5407	6.22	1184	5688	6.54	1220	5967	6.86
8000	1106	5474	6.30	1145	5774	6.64	1182	6071	6.98	1219	6365	7.32	1254	6657	7.66
8500	1145	6165	7.09	1183	6479	7.45	1220	6790	7.81	1255	7098	8.16	1290	7403	8.51

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:

1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

48HGD/K024 (Low Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	590	1276	1.47	663	1516	1.74	727	1745	2.01	786	1968	2.26	840	2189	2.52
5,500	633	1579	1.82	703	1838	2.11	764	2084	2.40	820	2324	2.67	872	2560	2.94
6,000	677	1925	2.21	744	2203	2.53	803	2467	2.84	857	2723	3.13	907	2974	3.42
6,500	722	2317	2.67	786	2614	3.01	842	2896	3.33	894	3167	3.64	942	3434	3.95
7,000	767	2758	3.17	828	3073	3.53	883	3371	3.88	933	3660	4.21	979	3942	4.53
7,500	813	3250	3.74	871	3582	4.12	924	3897	4.48	972	4202	4.83	1017	4500	5.18
8,000	859	3795	4.36	915	4143	4.77	966	4475	5.15	1012	4797	5.52	1056	5110	5.88
8,500	906	4394	5.05	959	4759	5.47	1008	5107	5.87	1053	5445	6.26	1096	5774	6.64
9,000	952	5051	5.81	1004	5432	6.25	1051	5797	6.67	1095	6150	7.07	1136	6494	7.47
9,500	999	5767	6.63	1049	6163	7.09	1094	6544	7.53	1137	6913	7.95	1177	7272	8.36
10,000	1047	6544	7.53	1094	6956	8.00	1138	7352	8.46	1180	7736	8.90	1219	8111	9.33

48HGD024 (Low Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	891	2408	2.77	940	2625	3.02	987	2843	3.27	1032	3060	3.52	1076	3277	3.77
5,500	921	2792	3.21	968	3024	3.48	1014	3255	3.74	1057	3485	4.01	1099	3716	4.27
6,000	954	3221	3.70	999	3467	3.99	1042	3711	4.27	1084	3955	4.55	1125	4198	4.83
6,500	988	3696	4.25	1032	3956	4.55	1073	4214	4.85	1114	4470	5.14	1153	4726	5.44
7,000	1024	4219	4.85	1066	4493	5.17	1106	4764	5.48	1145	5034	5.79	1183	5303	6.10
7,500	1060	4792	5.51	1101	5080	5.84	1140	5365	6.17	1178	5649	6.50	1215	5930	6.82
8,000	1098	5417	6.23	1138	5719	6.58	1176	6018	6.92	1213	6315	7.26	1249	6610	7.60
8,500	1137	6096	7.01	1175	6413	7.38	1212	6726	7.74	1248	7036	8.09	1283	7344	8.45
9,000	1176	6831	7.86	1214	7163	8.24	1250	7490	8.61	1285	7814	8.99	1319	8135	9.36
9,500	1216	7624	8.77	1253	7970	9.17	1288	8312	9.56	1322	8649	9.95	1355	8984	10.33
10,000	1256	8478	9.75	1292	8838	10.16	1327	9193	10.57	1360	9545	10.98	1393	9893	11.38

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

48HGE/L024 AND 48HGF/M024 (Medium and High Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	607	1329	1.53	677	1565	1.80	740	1791	2.06	797	2013	2.31	850	2231	2.57
5,500	652	1648	1.90	719	1902	2.19	779	2145	2.47	833	2382	2.74	884	2616	3.01
6,000	699	2013	2.32	763	2285	2.63	819	2545	2.93	872	2798	3.22	921	3046	3.50
6,500	746	2428	2.79	807	2716	3.12	861	2993	3.44	911	3262	3.75	958	3525	4.05
7,000	794	2895	3.33	851	3198	3.68	904	3491	4.02	952	3776	4.34	998	4055	4.66
7,500	842	3415	3.93	897	3735	4.30	947	4043	4.65	994	4343	5.00	1038	4637	5.33
8,000	891	3992	4.59	943	4327	4.98	991	4650	5.35	1036	4966	5.71	1079	5274	6.07
8,500	940	4628	5.32	990	4977	5.72	1036	5316	6.11	1080	5646	6.49	1121	5970	6.87
9,000	990	5325	6.12	1037	5688	6.54	1082	6042	6.95	1124	6386	7.35	1163	6724	7.73
9,500	1039	6085	7.00	1085	6462	7.43	1128	6829	7.85	1168	7188	8.27	1207	7541	8.67
10,000	1089	6911	7.95	1133	7301	8.40	1174	7682	8.83	1213	8055	9.26	1251	8421	9.69

48HGE/L024 AND 48HGF/M024 (Medium and High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	900	2448	2.82	949	2664	3.06	995	2879	3.31	1040	3095	3.56	1083	3310	3.81
5,500	933	2847	3.27	979	3077	3.54	1023	3305	3.80	1066	3534	4.06	1108	3762	4.33
6,000	967	3292	3.79	1011	3535	4.07	1054	3778	4.35	1095	4019	4.62	1135	4260	4.90
6,500	1003	3785	4.35	1046	4043	4.65	1087	4298	4.94	1127	4553	5.24	1165	4806	5.53
7,000	1041	4330	4.98	1082	4601	5.29	1122	4870	5.60	1160	5138	5.91	1197	5404	6.22
7,500	1079	4926	5.67	1119	5212	5.99	1158	5495	6.32	1195	5776	6.64	1231	6055	6.96
8,000	1119	5578	6.42	1158	5878	6.76	1195	6174	7.10	1231	6468	7.44	1267	6761	7.78
8,500	1160	6288	7.23	1198	6601	7.59	1234	6912	7.95	1269	7219	8.30	1303	7524	8.65
9,000	1202	7056	8.12	1238	7384	8.49	1273	7708	8.87	1308	8029	9.23	1341	8347	9.60
9,500	1244	7887	9.07	1279	8228	9.46	1314	8566	9.85	1347	8900	10.24	1379	9231	10.62
10,000	1287	8781	10.10	1321	9137	10.51	1355	9488	10.91	1387	9836	11.31	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

48HGD/K028 (Low Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	750	2,468	2.84	806	2,767	3.18	854	3,031	3.49	898	3,298	3.79	943	3,584	4.12
7,000	797	2,942	3.38	853	3,276	3.77	899	3,557	4.09	941	3,832	4.41	982	4,118	4.74
7,500	845	3,468	3.99	900	3,840	4.42	945	4,142	4.76	985	4,430	5.09	1024	4,721	5.43
8,000	892	4,045	4.65	948	4,462	5.13	991	4,789	5.51	1030	5,092	5.86	1067	5,391	6.20
8,500	939	4,677	5.38	995	5,141	5.91	1038	5,497	6.32	1076	5,818	6.69	1112	6,129	7.05
9,000	986	5,364	6.17	1042	5,882	6.76	1085	6,269	7.21	1122	6,611	7.60	1157	6,936	7.98
9,500	1033	6,108	7.03	1090	6,684	7.69	1132	7,105	8.17	1169	7,470	8.59	1203	7,813	8.99
10,000	1079	6,911	7.95	1137	7,550	8.68	1180	8,007	9.21	1216	8,399	9.66	1249	8,761	10.08
10,500	1126	7,773	8.94	1184	8,480	9.75	1227	8,978	10.33	1263	9,399	10.81	1296	9,782	11.25
11,000	1172	8,696	10.00	1232	9,475	10.90	1274	10,017	11.52	1310	10,468	12.04	1342	10,876	12.51
11,500	1219	9,681	11.13	1279	10,539	12.12	1322	11,127	12.80	1357	11,611	13.35	—	—	—
12,000	1265	10,732	12.34	1326	11,669	13.42	—	—	—	—	—	—	—	—	—
12,500	1311	11,848	13.63	—	—	—	—	—	—	—	—	—	—	—	—

48HGD/K028 (Low Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	988	3,900	4.49	1035	4,250	4.89	1082	4,634	5.33	1130	5,053	5.81	1177	5,499	6.32
7,000	1024	4,426	5.09	1066	4,760	5.48	1109	5,126	5.90	1153	5,524	6.35	1197	5,953	6.85
7,500	1063	5,026	5.78	1101	5,351	6.15	1141	5,702	6.56	1181	6,081	6.99	1222	6,490	7.46
8,000	1104	5,698	6.55	1140	6,020	6.92	1176	6,361	7.32	1213	6,727	7.74	1251	7,118	8.19
8,500	1146	6,443	7.41	1180	6,765	7.78	1214	7,103	8.17	1249	7,459	8.58	1283	7,837	9.01
9,000	1190	7,259	8.35	1222	7,586	8.73	1255	7,925	9.11	1287	8,276	9.52	1319	8,645	9.94
9,500	1235	8,148	9.37	1266	8,483	9.76	1296	8,824	10.15	1327	9,176	10.55	1357	9,541	10.97
10,000	1280	9,111	10.48	1310	9,456	10.88	1340	9,804	11.28	1369	10,158	11.68	1398	10,522	12.10
10,500	1326	10,147	11.67	1355	10,505	12.08	1384	10,862	12.49	—	—	—	—	—	—
11,000	1372	11,259	12.95	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 799 to 965 rpm. For standard motor with alternate drive, the drive range is 939 to 1152 rpm. For alternate motor with standard drive, the drive range is 945 to 1187 rpm. For alternate motor with optional drive, the drive range is 1152 to 1366 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 8.63. Maximum continuous Bhp for the alternate motor is 11.50. The maximum continuous watts for the standard motor is 6438. The maximum continuous watts for the alternate motor is 8579. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

48HGE/L028 AND 48HGF/M028 (Medium and High Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	775	2,600	2.99	825	2,872	3.30	871	3,130	3.60	915	3,400	3.91	959	3,692	4.25
7,000	826	3,115	3.58	875	3,408	3.92	918	3,679	4.23	959	3,954	4.55	1000	4,245	4.88
7,500	878	3,690	4.24	925	4,006	4.61	966	4,292	4.94	1005	4,575	5.26	1043	4,868	5.60
8,000	929	4,326	4.98	975	4,667	5.37	1015	4,970	5.72	1052	5,265	6.06	1088	5,564	6.40
8,500	981	5,029	5.78	1026	5,395	6.20	1064	5,717	6.58	1100	6,025	6.93	1134	6,332	7.28
9,000	1033	5,799	6.67	1076	6,191	7.12	1114	6,533	7.51	1148	6,856	7.89	1181	7,173	8.25
9,500	1085	6,640	7.64	1128	7,058	8.12	1164	7,421	8.54	1198	7,761	8.93	1229	8,091	9.31
10,000	1137	7,553	8.69	1179	8,000	9.20	1214	8,385	9.64	1247	8,741	10.05	1278	9,086	10.45
10,500	1190	8,542	9.82	1230	9,016	10.37	1265	9,424	10.84	1297	9,799	11.27	1327	10,158	11.68
11,000	1242	9,609	11.05	1282	10,111	11.63	1316	10,542	12.12	1347	10,937	12.58	1376	11,311	13.01
11,500	1294	10,756	12.37	1333	11,287	12.98	1367	11,741	13.50	—	—	—	—	—	—
12,000	1347	11,985	13.78	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

48HGE028 AND 48HGF/M028 (Medium and High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	1004	4,016	4.62	1050	4,374	5.03	1098	4,769	5.48	1145	5,195	5.97	1192	5646	6.49
7,000	1041	4,559	5.24	1083	4,902	5.64	1126	5,277	6.07	1170	5,685	6.54	1214	6122	7.04
7,500	1081	5,179	5.96	1120	5,512	6.34	1159	5,872	6.75	1199	6,261	7.20	1240	6680	7.68
8,000	1124	5,875	6.76	1160	6,203	7.13	1196	6,553	7.54	1233	6,928	7.97	1270	7329	8.43
8,500	1168	6,647	7.64	1202	6,974	8.02	1235	7,318	8.42	1269	7,684	8.84	1304	8071	9.28
9,000	1214	7,495	8.62	1245	7,825	9.00	1277	8,168	9.39	1309	8,527	9.81	1341	8905	10.24
9,500	1260	8,421	9.69	1290	8,756	10.07	1320	9,100	10.47	1351	9,457	10.88	1381	9830	11.31
10,000	1308	9,425	10.84	1337	9,768	11.23	1365	10,116	11.63	1394	10,474	12.05	—	—	—
10,500	1356	10,510	12.09	1384	10,862	12.49	—	—	—	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 799 to 965 rpm. For standard motor with alternate drive, the drive range is 939 to 1152 rpm. For alternate motor with standard drive, the drive range is 945 to 1187 rpm. For alternate motor with optional drive, the drive range is 1152 to 1366 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 8.63. Maximum continuous Bhp for the alternate motor is 11.50. The maximum continuous watts for the standard motor is 6438. The maximum continuous watts for the alternate motor is 8579. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

50HG014*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	423	522	0.60	521	715	0.82	605	906	1.04	679	1093	1.26	747	1278	1.47
4000	454	675	0.78	545	884	1.02	625	1093	1.26	697	1299	1.49	762	1502	1.73
4500	487	859	0.99	572	1082	1.24	648	1307	1.50	717	1529	1.76	780	1750	2.01
5000	522	1077	1.24	601	1311	1.51	673	1550	1.78	739	1789	2.06	800	2026	2.33
5500	559	1330	1.53	632	1573	1.81	700	1826	2.10	763	2080	2.39	822	2332	2.68
6000	598	1621	1.86	664	1873	2.15	729	2137	2.46	789	2405	2.77	846	2671	3.07
6500	637	1953	2.25	698	2212	2.54	759	2486	2.86	817	2766	3.18	871	3046	3.50
7000	677	2327	2.68	734	2593	2.98	791	2876	3.31	846	3167	3.64	898	3459	3.98
7500	718	2745	3.16	770	3018	3.47	824	3309	3.81	876	3609	4.15	926	3913	4.50
8000	759	3209	3.69	808	3489	4.01	858	3787	4.36	907	4095	4.71	956	4410	5.07
8500	801	3722	4.28	846	4007	4.61	893	4311	4.96	940	4628	5.32	986	4952	5.69

50HG014* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	810	1461	1.68	868	1642	1.89	923	1821	2.09	975	1999	2.30	1024	2176	2.50
4000	823	1703	1.96	880	1902	2.19	934	2100	2.42	985	2296	2.64	1034	2490	2.86
4500	839	1969	2.26	894	2185	2.51	947	2400	2.76	997	2613	3.01	1045	2826	3.25
5000	857	2261	2.60	911	2494	2.87	962	2726	3.14	1011	2956	3.40	1058	3185	3.66
5500	877	2583	2.97	930	2832	3.26	979	3080	3.54	1027	3326	3.83	1073	3570	4.11
6000	899	2937	3.38	950	3202	3.68	999	3465	3.98	1045	3726	4.29	1090	3986	4.58
6500	923	3327	3.83	972	3606	4.15	1020	3883	4.47	1065	4159	4.78	1108	4434	5.10
7000	948	3753	4.32	996	4045	4.65	1042	4337	4.99	1086	4627	5.32	1128	4917	5.65
7500	975	4219	4.85	1021	4525	5.20	1066	4829	5.55	1109	5134	5.90	1150	5436	6.25
8000	1002	4727	5.44	1047	5045	5.80	1091	5362	6.17	1133	5680	6.53	1173	5995	6.90
8500	1031	5280	6.07	1075	5609	6.45	1117	5938	6.83	1158	6268	7.21	1197	6596	7.59

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For standard motor with alternate drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

50HG016*

CFM	0.2			0.4			0.6			0.8			1.0		
	Available External Static Pressure (in. wg)														
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	423	522	0.60	521	715	0.82	605	906	1.04	679	1093	1.26	747	1278	1.47
4000	454	675	0.78	545	884	1.02	625	1093	1.26	697	1299	1.49	762	1502	1.73
4500	487	859	0.99	572	1082	1.24	648	1307	1.50	717	1529	1.76	780	1750	2.01
5000	522	1077	1.24	601	1311	1.51	673	1550	1.78	739	1789	2.06	800	2026	2.33
5500	559	1330	1.53	632	1573	1.81	700	1826	2.10	763	2080	2.39	822	2332	2.68
6000	598	1621	1.86	664	1873	2.15	729	2137	2.46	789	2405	2.77	846	2671	3.07
6500	637	1953	2.25	698	2212	2.54	759	2486	2.86	817	2766	3.18	871	3046	3.50
7000	677	2327	2.68	734	2593	2.98	791	2876	3.31	846	3167	3.64	898	3459	3.98
7500	718	2745	3.16	770	3018	3.47	824	3309	3.81	876	3609	4.15	926	3913	4.50
8000	759	3209	3.69	808	3489	4.01	858	3787	4.36	907	4095	4.71	956	4410	5.07
8500	801	3722	4.28	846	4007	4.61	893	4311	4.96	940	4628	5.32	986	4952	5.69

50HG016* (cont)

CFM	1.2			1.4			1.6			1.8			2.0		
	Available External Static Pressure (in. wg)														
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	810	1461	1.68	868	1642	1.89	923	1821	2.09	975	1999	2.30	1024	2176	2.50
4000	823	1703	1.96	880	1902	2.19	934	2100	2.42	985	2296	2.64	1034	2490	2.86
4500	839	1969	2.26	894	2185	2.51	947	2400	2.76	997	2613	3.01	1045	2826	3.25
5000	857	2261	2.60	911	2494	2.87	962	2726	3.14	1011	2956	3.40	1058	3185	3.66
5500	877	2583	2.97	930	2832	3.26	979	3080	3.54	1027	3326	3.83	1073	3570	4.11
6000	899	2937	3.38	950	3202	3.68	999	3465	3.98	1045	3726	4.29	1090	3986	4.58
6500	923	3327	3.83	972	3606	4.15	1020	3883	4.47	1065	4159	4.78	1108	4434	5.10
7000	948	3753	4.32	996	4045	4.65	1042	4337	4.99	1086	4627	5.32	1128	4917	5.65
7500	975	4219	4.85	1021	4525	5.20	1066	4829	5.55	1109	5134	5.90	1150	5436	6.25
8000	1002	4727	5.44	1047	5045	5.80	1091	5362	6.17	1133	5680	6.53	1173	5995	6.90
8500	1031	5280	6.07	1075	5609	6.45	1117	5938	6.83	1158	6268	7.21	1197	6596	7.59

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For standard motor with alternate drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

NOTES:

1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

50HG020*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	423	522	0.60	521	715	0.82	605	906	1.04	679	1093	1.26	747	1278	1.47
4000	454	675	0.78	545	884	1.02	625	1093	1.26	697	1299	1.49	762	1502	1.73
4500	487	859	0.99	572	1082	1.24	648	1307	1.50	717	1529	1.76	780	1750	2.01
5000	522	1077	1.24	601	1311	1.51	673	1550	1.78	739	1789	2.06	800	2026	2.33
5500	559	1330	1.53	632	1573	1.81	700	1826	2.10	763	2080	2.39	822	2332	2.68
6000	598	1621	1.86	664	1873	2.15	729	2137	2.46	789	2405	2.77	846	2671	3.07
6500	637	1953	2.25	698	2212	2.54	759	2486	2.86	817	2766	3.18	871	3046	3.50
7000	677	2327	2.68	734	2593	2.98	791	2876	3.31	846	3167	3.64	898	3459	3.98
7500	718	2745	3.16	770	3018	3.47	824	3309	3.81	876	3609	4.15	926	3913	4.50
8000	759	3209	3.69	808	3489	4.01	858	3787	4.36	907	4095	4.71	956	4410	5.07
8500	801	3722	4.28	846	4007	4.61	893	4311	4.96	940	4628	5.32	986	4952	5.69

50HG020* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	810	1461	1.68	868	1642	1.89	923	1821	2.09	975	1999	2.30	1024	2176	2.50
4000	823	1703	1.96	880	1902	2.19	934	2100	2.42	985	2296	2.64	1034	2490	2.86
4500	839	1969	2.26	894	2185	2.51	947	2400	2.76	997	2613	3.01	1045	2826	3.25
5000	857	2261	2.60	911	2494	2.87	962	2726	3.14	1011	2956	3.40	1058	3185	3.66
5500	877	2583	2.97	930	2832	3.26	979	3080	3.54	1027	3326	3.83	1073	3570	4.11
6000	899	2937	3.38	950	3202	3.68	999	3465	3.98	1045	3726	4.29	1090	3986	4.58
6500	923	3327	3.83	972	3606	4.15	1020	3883	4.47	1065	4159	4.78	1108	4434	5.10
7000	948	3753	4.32	996	4045	4.65	1042	4337	4.99	1086	4627	5.32	1128	4917	5.65
7500	975	4219	4.85	1021	4525	5.20	1066	4829	5.55	1109	5134	5.90	1150	5436	6.25
8000	1002	4727	5.44	1047	5045	5.80	1091	5362	6.17	1133	5680	6.53	1173	5995	6.90
8500	1031	5280	6.07	1075	5609	6.45	1117	5938	6.83	1158	6268	7.21	1197	6596	7.59

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:

1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

50HG024*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	533	1106	1.27	611	1342	1.54	682	1582	1.82	748	1822	2.10	808	2059	2.37
5,500	571	1366	1.57	643	1613	1.86	711	1867	2.15	773	2121	2.44	832	2374	2.73
6,000	610	1666	1.92	676	1922	2.21	740	2188	2.52	800	2456	2.82	857	2724	3.13
6,500	650	2007	2.31	712	2271	2.61	772	2548	2.93	829	2829	3.25	883	3110	3.58
7,000	691	2391	2.75	748	2663	3.06	805	2949	3.39	859	3242	3.73	911	3536	4.07
7,500	732	2820	3.24	786	3100	3.57	839	3395	3.91	891	3698	4.25	941	4004	4.61
8,000	775	3297	3.79	824	3585	4.12	874	3887	4.47	924	4200	4.83	972	4516	5.19
8,500	817	3823	4.40	863	4118	4.74	911	4428	5.09	958	4749	5.46	1003	5075	5.84
9,000	860	4400	5.06	904	4702	5.41	948	5019	5.77	993	5347	6.15	1036	5683	6.54
9,500	903	5031	5.79	944	5339	6.14	986	5663	6.51	1028	5998	6.90	1070	6343	7.29
10,000	947	5715	6.57	985	6030	6.93	1025	6360	7.32	1065	6703	7.71	1105	7055	8.11

50HG024* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	865	2294	2.64	918	2527	2.91	969	2760	3.17	1018	2990	3.44	1065	3219	3.70
5,500	886	2625	3.02	938	2875	3.31	988	3123	3.59	1035	3369	3.87	1081	3614	4.16
6,000	910	2990	3.44	960	3254	3.74	1008	3518	4.05	1054	3779	4.35	1099	4040	4.65
6,500	935	3391	3.90	984	3670	4.22	1030	3948	4.54	1075	4224	4.86	1118	4499	5.18
7,000	961	3830	4.40	1008	4123	4.74	1054	4415	5.08	1098	4706	5.41	1140	4996	5.75
7,500	989	4311	4.96	1035	4617	5.31	1079	4922	5.66	1122	5227	6.01	1163	5530	6.36
8,000	1018	4835	5.56	1062	5153	5.93	1105	5472	6.29	1147	5790	6.66	1187	6106	7.02
8,500	1048	5405	6.22	1091	5735	6.60	1133	6065	6.98	1173	6396	7.36	1212	6725	7.73
9,000	1079	6022	6.93	1121	6364	7.32	1161	6706	7.71	1201	7048	8.11	1239	7390	8.50
9,500	1112	6691	7.70	1152	7042	8.10	1191	7395	8.51	1229	7749	8.91	1266	8102	9.32
10,000	1145	7412	8.52	1184	7773	8.94	1222	8135	9.36	1259	8500	9.78	1295	8864	10.20

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:

1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Vertical Supply and Return) (cont)

50HG028*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	734	2384	2.74	752	2482	2.85	803	2,752	3.16	848	2,998	3.45	891	3,250	3.74
7,000	728	2506	2.88	792	2911	3.35	844	3,220	3.70	887	3,484	4.01	928	3,742	4.30
7,500	746	2738	3.15	831	3375	3.88	884	3,734	4.29	927	4,023	4.63	966	4,293	4.94
8,000	786	3148	3.62	869	3868	4.45	925	4,292	4.94	968	4,612	5.30	1006	4,901	5.64
8,500	827	3611	4.15	905	4384	5.04	964	4,891	5.63	1008	5,251	6.04	1046	5,564	6.40
9,000	870	4125	4.74	940	4921	5.66	1003	5,529	6.36	1049	5,939	6.83	1086	6,281	7.22
9,500	913	4691	5.40	975	5480	6.30	1042	6,202	7.13	1089	6,674	7.68	1127	7,053	8.11
10,000	957	5312	6.11	1010	6073	6.98	1079	6,906	7.94	1128	7,453	8.57	1167	7,876	9.06
10,500	1002	5988	6.89	1047	6715	7.72	1115	7,635	8.78	1167	8,275	9.52	1207	8,751	10.06
11,000	1047	6719	7.73	1086	7416	8.53	1150	8,388	9.65	1205	9,133	10.50	1247	9,674	11.13
11,500	1092	7507	8.63	1126	8180	9.41	1185	9,163	10.54	1242	10,025	11.53	1286	10,642	12.24
12,000	1137	8356	9.61	1168	9009	10.36	1220	9,975	11.47	1278	10,945	12.59	1325	11,654	13.40
12,500	1182	9264	10.65	1210	9903	11.39	1256	10,835	12.46	1314	11,891	13.68	—	—	—

50HG028* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	934	3,521	4.05	978	3,822	4.40	1023	4,160	4.78	1071	4,540	5.22	1119	4,961	5.71
7,000	967	4,010	4.61	1007	4,297	4.94	1048	4,612	5.30	1090	4,960	5.70	1134	5,344	6.15
7,500	1003	4,565	5.25	1040	4,847	5.57	1078	5,148	5.92	1116	5,474	6.30	1155	5,830	6.71
8,000	1041	5,181	5.96	1076	5,465	6.29	1111	5,762	6.63	1146	6,076	6.99	1181	6,412	7.37
8,500	1081	5,859	6.74	1114	6,150	7.07	1147	6,448	7.42	1179	6,756	7.77	1212	7,081	8.14
9,000	1121	6,595	7.59	1153	6,899	7.93	1184	7,202	8.28	1215	7,512	8.64	1246	7,832	9.01
9,500	1161	7,390	8.50	1193	7,710	8.87	1223	8,025	9.23	1253	8,340	9.59	1282	8,660	9.96
10,000	1202	8,244	9.48	1233	8,584	9.87	1263	8,913	10.25	1291	9,237	10.62	1319	9,563	11.00
10,500	1242	9,154	10.53	1273	9,519	10.95	1303	9,866	11.35	1331	10,203	11.73	1358	10,537	12.12
11,000	1282	10,118	11.64	1314	10,514	12.09	1343	10,884	12.52	1371	11,237	12.92	1397	11,584	13.32
11,500	1322	11,136	12.81	1354	11,568	13.30	1384	11,964	13.76	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 799 to 965 rpm. For standard motor with alternate drive, the drive range is 939 to 1152 rpm. For alternate motor with standard drive, the drive range is 945 to 1187 rpm. For alternate motor with optional drive, the drive range is 1152 to 1366 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 8.63. Maximum continuous Bhp for the alternate motor is 11.50. The maximum continuous watts for the standard motor is 6438. The maximum continuous watts for the alternate motor is 8579. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

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FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return)

48HGD/K014 (Low Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	635	1064	1.22	709	1278	1.47	776	1492	1.72	838	1708	1.96	896	1924	2.21
4,000	707	1402	1.61	773	1627	1.87	835	1853	2.13	892	2080	2.39	947	2307	2.65
4,500	780	1802	2.07	840	2037	2.34	897	2273	2.61	950	2510	2.89	1001	2465	2.84
5,000	853	2264	2.60	909	2510	2.89	961	2756	3.17	1011	2710	3.12	1059	3015	3.47
5,500	928	2794	3.21	979	3049	3.51	1028	3012	3.46	1075	3333	3.83	1120	3661	4.21
6,000	1003	3047	3.50	1051	3376	3.88	1096	3714	4.27	1140	4059	4.67	1182	4411	5.07
6,500	1079	3812	4.38	1123	4166	4.79	1166	4529	5.21	1207	4898	5.63	1247	5274	6.07
7,000	1155	4697	5.40	1196	5078	5.84	1236	5465	6.29	1275	5859	6.74	1313	6260	7.20
7,500	1231	5714	6.57	1270	6120	7.04	1308	6533	7.51	1345	6952	8.00	1381	7378	8.49
8,000	1308	6871	7.90	1344	7303	8.40	1380	7741	8.90	—	—	—	—	—	—
8,500	1385	8177	9.40	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

48HGD/K014 (Low Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	951	2143	2.46	1003	2120	2.44	1052	2387	2.75	1100	2662	3.06	1146	2944	3.39
4,000	998	2535	2.92	1048	2548	2.93	1095	2835	3.26	1141	3129	3.60	1184	3432	3.95
4,500	1050	2756	3.17	1097	3055	3.51	1142	3363	3.87	1185	3678	4.23	1227	4001	4.60
5,000	1105	3329	3.83	1150	3651	4.20	1192	3979	4.58	1234	4315	4.96	1274	4658	5.36
5,500	1163	3997	4.60	1205	4342	4.99	1246	4692	5.40	1286	5051	5.81	1324	5415	6.23
6,000	1224	4771	5.49	1263	5138	5.91	1302	5511	6.34	1340	5892	6.78	1377	6278	7.22
6,500	1286	5658	6.51	1324	6048	6.96	1361	6445	7.41	1397	6847	7.87	—	—	—
7,000	1350	6668	7.67	1386	7081	8.14	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For standard motor with alternate drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

NOTES:

1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on baffles, filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

48HGF/M014 (High Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	635	1064	1.22	709	1278	1.47	776	1492	1.72	838	1708	1.96	896	1924	2.21
4000	707	1402	1.61	773	1627	1.87	835	1853	2.13	892	2080	2.39	947	2307	2.65
4500	780	1802	2.07	840	2037	2.34	897	2273	2.61	950	2510	2.89	1001	2465	2.84
5000	853	2264	2.60	909	2510	2.89	961	2756	3.17	1011	2710	3.12	1059	3015	3.47
5500	928	2794	3.21	979	3049	3.51	1028	3012	3.46	1075	3333	3.83	1120	3661	4.21
6000	1003	3047	3.50	1051	3376	3.88	1096	3714	4.27	1140	4059	4.67	1182	4411	5.07
6500	1079	3812	4.38	1123	4166	4.79	1166	4529	5.21	1207	4898	5.63	1247	5274	6.07
7000	1155	4697	5.40	1196	5078	5.84	1236	5465	6.29	1275	5859	6.74	1313	6260	7.20
7500	1231	5714	6.57	1270	6120	7.04	1308	6533	7.51	1345	6952	8.00	1381	7378	8.49
8000	1308	6871	7.90	1344	7303	8.40	1380	7741	8.90	—	—	—	—	—	—
8500	1385	8177	9.40	—	—	—	—	—	—	—	—	—	—	—	—

48HGF/M014 (High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	951	2143	2.46	1003	2120	2.44	1052	2387	2.75	1100	2662	3.06	1146	2944	3.39
4000	998	2535	2.92	1048	2548	2.93	1095	2835	3.26	1141	3129	3.60	1184	3432	3.95
4500	1050	2756	3.17	1097	3055	3.51	1142	3363	3.87	1185	3678	4.23	1227	4001	4.60
5000	1105	3329	3.83	1150	3651	4.20	1192	3979	4.58	1234	4315	4.96	1274	4658	5.36
5500	1163	3997	4.60	1205	4342	4.99	1246	4692	5.40	1286	5051	5.81	1324	5415	6.23
6000	1224	4771	5.49	1263	5138	5.91	1302	5511	6.34	1340	5892	6.78	1377	6278	7.22
6500	1286	5658	6.51	1324	6048	6.96	1361	6445	7.41	1397	6847	7.87	—	—	—
7000	1350	6668	7.67	1386	7081	8.14	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For standard motor with alternate drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on baffles, filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

48HGD/K016 (Low Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	635	1064	1.22	709	1278	1.47	776	1492	1.72	838	1708	1.96	896	1924	2.21
4,000	707	1402	1.61	773	1627	1.87	835	1853	2.13	892	2080	2.39	947	2307	2.65
4,500	780	1802	2.07	840	2037	2.34	897	2273	2.61	950	2510	2.89	1001	2465	2.84
5,000	853	2264	2.60	909	2510	2.89	961	2756	3.17	1011	2710	3.12	1059	3015	3.47
5,500	928	2794	3.21	979	3049	3.51	1028	3012	3.46	1075	3333	3.83	1120	3661	4.21
6,000	1003	3047	3.50	1051	3376	3.88	1096	3714	4.27	1140	4059	4.67	1182	4411	5.07
6,500	1079	3812	4.38	1123	4166	4.79	1166	4529	5.21	1207	4898	5.63	1247	5274	6.07
7,000	1155	4697	5.40	1196	5078	5.84	1236	5465	6.29	1275	5859	6.74	1313	6260	7.20
7,500	1231	5714	6.57	1270	6120	7.04	1308	6533	7.51	1345	6952	8.00	1381	7378	8.49
8,000	1308	6871	7.90	1344	7303	8.40	1380	7741	8.90	—	—	—	—	—	—
8,500	1385	8177	9.40	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

48HGD/K016 (Low Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	951	2143	2.46	1003	2120	2.44	1052	2387	2.75	1100	2662	3.06	1146	2944	3.39
4,000	998	2535	2.92	1048	2548	2.93	1095	2835	3.26	1141	3129	3.60	1184	3432	3.95
4,500	1050	2756	3.17	1097	3055	3.51	1142	3363	3.87	1185	3678	4.23	1227	4001	4.60
5,000	1105	3329	3.83	1150	3651	4.20	1192	3979	4.58	1234	4315	4.96	1274	4658	5.36
5,500	1163	3997	4.60	1205	4342	4.99	1246	4692	5.40	1286	5051	5.81	1324	5415	6.23
6,000	1224	4771	5.49	1263	5138	5.91	1302	5511	6.34	1340	5892	6.78	1377	6278	7.22
6,500	1286	5658	6.51	1324	6048	6.96	1361	6445	7.41	1397	6847	7.87	—	—	—
7,000	1350	6668	7.67	1386	7081	8.14	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For standard motor with alternate drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on baffles, filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

48HGE/F/L/M016 (Medium and High Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	645	1105	1.27	720	1329	1.53	788	1549	1.78	851	1767	2.03	910	1982	2.28
4,000	718	1454	1.67	785	1692	1.95	848	1926	2.22	906	2158	2.48	962	2388	2.75
4,500	792	1866	2.15	853	2117	2.43	911	2364	2.72	965	2609	3.00	1017	2583	2.97
5,000	867	2343	2.69	923	2605	3.00	977	2865	3.30	1027	2845	3.27	1076	3163	3.64
5,500	943	2889	3.32	995	3162	3.64	1044	3158	3.63	1092	3497	4.02	1138	3843	4.42
6,000	1019	3177	3.65	1067	3532	4.06	1113	3892	4.48	1158	4259	4.90	1201	4631	5.33
6,500	1096	3973	4.57	1141	4354	5.01	1184	4742	5.45	1226	5136	5.91	1267	5535	6.37
7,000	1173	4894	5.63	1215	5304	6.10	1256	5719	6.58	1295	6140	7.06	1334	6567	7.55
7,500	1250	5952	6.85	1290	6389	7.35	1328	6832	7.86	1366	7281	8.37	—	—	—
8,000	1328	7153	8.23	1365	7620	8.76	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

48HGE/F/L/M016 (Medium and High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	965	2195	2.53	1018	2181	2.51	1068	2442	2.81	1116	2708	3.11	1162	2979	3.43
4,000	1014	2364	2.72	1064	2644	3.04	1112	2930	3.37	1158	3221	3.70	1202	3517	4.05
4,500	1067	2882	3.31	1114	3187	3.67	1160	3498	4.02	1204	3814	4.39	1246	4135	4.76
5,000	1123	3489	4.01	1168	3820	4.39	1211	4156	4.78	1253	4497	5.17	1294	4844	5.57
5,500	1182	4194	4.82	1224	4551	5.23	1266	4913	5.65	1306	5280	6.07	1345	5652	6.50
6,000	1243	5008	5.76	1283	5391	6.20	1323	5779	6.65	1361	6172	7.10	1398	6569	7.56
6,500	1306	5939	6.83	1345	6349	7.30	1382	6763	7.78	—	—	—	—	—	—
7,000	1371	6997	8.05	—	—	—	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For standard motor with alternate drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on baffles, filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

48HGD/K020 (Low Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	635	1064	1.22	709	1278	1.47	776	1492	1.72	838	1708	1.96	896	1924	2.21
4,000	707	1402	1.61	773	1627	1.87	835	1853	2.13	892	2080	2.39	947	2307	2.65
4,500	780	1802	2.07	840	2037	2.34	897	2273	2.61	950	2510	2.89	1001	2465	2.84
5,000	853	2264	2.60	909	2510	2.89	961	2756	3.17	1011	2710	3.12	1059	3015	3.47
5,500	928	2794	3.21	979	3049	3.51	1028	3012	3.46	1075	3333	3.83	1120	3661	4.21
6,000	1003	3047	3.50	1051	3376	3.88	1096	3714	4.27	1140	4059	4.67	1182	4411	5.07
6,500	1079	3812	4.38	1123	4166	4.79	1166	4529	5.21	1207	4898	5.63	1247	5274	6.07
7,000	1155	4697	5.40	1196	5078	5.84	1236	5465	6.29	1275	5859	6.74	1313	6260	7.20
7,500	1231	5714	6.57	1270	6120	7.04	1308	6533	7.51	1345	6952	8.00	1381	7378	8.49
8,000	1308	6871	7.90	1344	7303	8.40	1380	7741	8.90	—	—	—	—	—	—
8,500	1385	8177	9.40	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

48HGD/K020 (Low Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	951	2143	2.46	1003	2120	2.44	1052	2387	2.75	1100	2662	3.06	1146	2944	3.39
4,000	998	2535	2.92	1048	2548	2.93	1095	2835	3.26	1141	3129	3.60	1184	3432	3.95
4,500	1050	2756	3.17	1097	3055	3.51	1142	3363	3.87	1185	3678	4.23	1227	4001	4.60
5,000	1105	3329	3.83	1150	3651	4.20	1192	3979	4.58	1234	4315	4.96	1274	4658	5.36
5,500	1163	3997	4.60	1205	4342	4.99	1246	4692	5.40	1286	5051	5.81	1324	5415	6.23
6,000	1224	4771	5.49	1263	5138	5.91	1302	5511	6.34	1340	5892	6.78	1377	6278	7.22
6,500	1286	5658	6.51	1324	6048	6.96	1361	6445	7.41	1397	6847	7.87	—	—	—
7,000	1350	6668	7.67	1386	7081	8.14	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:

1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on baffles, filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

48HGE/F/L/M020 (Medium and High Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	645	1105	1.27	720	1329	1.53	788	1549	1.78	851	1767	2.03	910	1982	2.28
4,000	718	1454	1.67	785	1692	1.95	848	1926	2.22	906	2158	2.48	962	2388	2.75
4,500	792	1866	2.15	853	2117	2.43	911	2364	2.72	965	2609	3.00	1017	2583	2.97
5,000	867	2343	2.69	923	2605	3.00	977	2865	3.30	1027	2845	3.27	1076	3163	3.64
5,500	943	2889	3.32	995	3162	3.64	1044	3158	3.63	1092	3497	4.02	1138	3843	4.42
6,000	1019	3177	3.65	1067	3532	4.06	1113	3892	4.48	1158	4259	4.90	1201	4631	5.33
6,500	1096	3973	4.57	1141	4354	5.01	1184	4742	5.45	1226	5136	5.91	1267	5535	6.37
7,000	1173	4894	5.63	1215	5304	6.10	1256	5719	6.58	1295	6140	7.06	1334	6567	7.55
7,500	1250	5952	6.85	1290	6389	7.35	1328	6832	7.86	1366	7281	8.37	—	—	—
8,000	1328	7153	8.23	1365	7620	8.76	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

48HGE/F/L/M020 (Medium and High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	965	2195	2.53	1018	2181	2.51	1068	2442	2.81	1116	2708	3.11	1162	2979	3.43
4,000	1014	2364	2.72	1064	2644	3.04	1112	2930	3.37	1158	3221	3.70	1202	3517	4.05
4,500	1067	2882	3.31	1114	3187	3.67	1160	3498	4.02	1204	3814	4.39	1246	4135	4.76
5,000	1123	3489	4.01	1168	3820	4.39	1211	4156	4.78	1253	4497	5.17	1294	4844	5.57
5,500	1182	4194	4.82	1224	4551	5.23	1266	4913	5.65	1306	5280	6.07	1345	5652	6.50
6,000	1243	5008	5.76	1283	5391	6.20	1323	5779	6.65	1361	6172	7.10	1398	6569	7.56
6,500	1306	5939	6.83	1345	6349	7.30	1382	6763	7.78	—	—	—	—	—	—
7,000	1371	6997	8.05	—	—	—	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on baffles, filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

48HGD/K024 (Low Heat Units)*

CFM	0.2 Rpm	0.2 Watts	0.2 Bhp	0.4 Rpm	0.4 Watts	0.4 Bhp	0.6 Rpm	0.6 Watts	0.6 Bhp	0.8 Rpm	0.8 Watts	0.8 Bhp	1.0 Rpm	1.0 Watts	1.0 Bhp
3,500	642	1082	1.24	714	1296	1.49	781	1510	1.74	843	1726	1.98	901	1943	2.23
4,000	714	1426	1.64	780	1651	1.90	841	1877	2.16	898	2103	2.42	952	2330	2.68
4,500	787	1831	2.11	847	2067	2.38	904	2303	2.65	957	2540	2.92	1008	2501	2.88
5,000	862	2301	2.65	917	2547	2.93	969	2793	3.21	1019	2755	3.17	1066	3062	3.52
5,500	937	2838	3.26	988	3094	3.56	1036	3067	3.53	1083	3390	3.90	1127	3719	4.28
6,000	1013	3113	3.58	1060	3445	3.96	1105	3783	4.35	1149	4130	4.75	1191	4484	5.16
6,500	1089	3893	4.48	1133	4250	4.89	1175	4615	5.31	1216	4986	5.73	1256	5364	6.17
7,000	1166	4798	5.52	1207	5181	5.96	1247	5570	6.41	1285	5965	6.86	1323	6369	7.32
7,500	1243	5837	6.71	1282	6244	7.18	1319	6658	7.66	1355	7080	8.14	1391	7507	8.63
8,000	1320	7017	8.07	1356	7450	8.57	1392	7890	9.08	—	—	—	—	—	—
8,500	1398	8350	9.60	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Available External Static Pressure (in. wg)

48HGD/K024 (Low Heat Units)* (cont)

CFM	1.2 Rpm	1.2 Watts	1.2 Bhp	1.4 Rpm	1.4 Watts	1.4 Bhp	1.6 Rpm	1.6 Watts	1.6 Bhp	1.8 Rpm	1.8 Watts	1.8 Bhp	2.0 Rpm	2.0 Watts	2.0 Bhp
3,500	955	2160	2.48	1007	2142	2.46	1056	2409	2.77	1104	2684	3.09	1149	2968	3.41
4,000	1004	2299	2.64	1053	2578	2.96	1100	2865	3.29	1145	3160	3.63	1189	3463	3.98
4,500	1056	2793	3.21	1103	3093	3.56	1147	3402	3.91	1191	3718	4.28	1233	4041	4.65
5,000	1112	3376	3.88	1156	3699	4.25	1199	4029	4.63	1240	4366	5.02	1280	4710	5.42
5,500	1171	4057	4.67	1212	4402	5.06	1253	4754	5.47	1292	5114	5.88	1331	5480	6.30
6,000	1232	4845	5.57	1271	5213	6.00	1310	5588	6.43	1348	5970	6.87	1384	6358	7.31
6,500	1295	5749	6.61	1333	6141	7.06	1369	6538	7.52	—	—	—	—	—	—
7,000	1360	6778	7.80	1396	7193	8.27	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Available External Static Pressure (in. wg)

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on baffles, filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

48HGE/F/M024 (Medium and High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	652	1123	1.29	726	1347	1.55	793	1567	1.80	856	1784	2.05	914	2000	2.30
4,000	725	1479	1.70	792	1716	1.97	854	1950	2.24	912	2182	2.51	967	2412	2.77
4,500	800	1897	2.18	861	2148	2.47	918	2395	2.75	972	2639	3.04	1024	2620	3.01
5,000	875	2383	2.74	931	2645	3.04	984	2904	3.34	1035	2892	3.33	1083	3212	3.69
5,500	952	2937	3.38	1003	2883	3.32	1053	3217	3.70	1100	3558	4.09	1145	3905	4.49
6,000	1029	3249	3.74	1077	3605	4.15	1123	3966	4.56	1167	4334	4.98	1210	4707	5.41
6,500	1106	4061	4.67	1151	4445	5.11	1194	4834	5.56	1236	5229	6.01	1276	5629	6.47
7,000	1184	5003	5.75	1226	5414	6.23	1266	5831	6.71	1306	6253	7.19	1344	6681	7.68
7,500	1262	6083	7.00	1302	6522	7.50	1340	6967	8.01	1377	7417	8.53	—	—	—
8,000	1341	7312	8.41	1378	7779	8.95	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

48HGE/F/M024 (Medium and High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3,500	970	2213	2.55	1022	2203	2.53	1072	2464	2.83	1120	2730	3.14	1166	3002	3.45
4,000	1019	2393	2.75	1069	2673	3.07	1117	2959	3.40	1163	3251	3.74	1207	3548	4.08
4,500	1073	2920	3.36	1120	3226	3.71	1165	3537	4.07	1209	3854	4.43	1252	4176	4.80
5,000	1130	3537	4.07	1174	3870	4.45	1218	4207	4.84	1259	4549	5.23	1300	4896	5.63
5,500	1189	4257	4.90	1232	4614	5.31	1273	4977	5.72	1313	5345	6.15	1352	5719	6.58
6,000	1251	5086	5.85	1292	5469	6.29	1331	5859	6.74	1369	6253	7.19	—	—	—
6,500	1315	6035	6.94	1354	6446	7.41	1391	6861	7.89	—	—	—	—	—	—
7,000	1381	7114	8.18	—	—	—	—	—	—	—	—	—	—	—	—
7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:

1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on baffles, filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

48HGD/K028 (Low Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	786	2,658	3.06	819	2,835	3.26	857	3,052	3.51	899	3,304	3.80	943	3,586	4.12
7,000	842	3,208	3.69	871	3,386	3.89	905	3,599	4.14	943	3,847	4.42	983	4,123	4.74
7,500	898	3,827	4.40	925	4,006	4.61	955	4,217	4.85	989	4,460	5.13	1026	4,733	5.44
8,000	955	4,518	5.20	979	4,699	5.40	1007	4,908	5.65	1037	5,148	5.92	1070	5,416	6.23
8,500	1012	5,284	6.08	1034	5,466	6.29	1059	5,675	6.53	1087	5,912	6.80	1117	6,176	7.10
9,000	1069	6,127	7.05	1090	6,312	7.26	1113	6,521	7.50	1138	6,757	7.77	1165	7,017	8.07
9,500	1127	7,050	8.11	1146	7,238	8.32	1167	7,448	8.57	1190	7,682	8.84	1215	7,940	9.13
10,000	1184	8,057	9.27	1202	8,247	9.49	1221	8,460	9.73	1243	8,693	10.00	1266	8,948	10.29
10,500	1242	9,149	10.52	1258	9,344	10.75	1276	9,557	10.99	1296	9,791	11.26	1318	10,046	11.55
11,000	1299	10,331	11.88	1315	10,529	12.11	1332	10,745	12.36	1350	10,979	12.63	1370	11,232	12.92
11,500	1357	11,604	13.35	1372	11,806	13.58	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

48HGD/K028 (Low Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	988	3,900	4.49	1035	4,248	4.89	1082	4,632	5.33	1129	5,050	5.81	1177	5,499	6.32
7,000	1024	4,428	5.09	1066	4,760	5.48	1109	5,124	5.89	1153	5,521	6.35	1197	5,950	6.84
7,500	1063	5,031	5.79	1102	5,354	6.16	1141	5,703	6.56	1181	6,081	6.99	1221	6,487	7.46
8,000	1105	5,709	6.57	1140	6,025	6.93	1176	6,364	7.32	1213	6,729	7.74	1250	7,116	8.18
8,500	1149	6,465	7.44	1181	6,777	7.79	1215	7,109	8.18	1249	7,463	8.58	1283	7,838	9.02
9,000	1194	7,302	8.40	1225	7,608	8.75	1256	7,935	9.13	1287	8,282	9.53	1319	8,649	9.95
9,500	1242	8,222	9.46	1270	8,524	9.80	1298	8,847	10.17	1328	9,189	10.57	1358	9,548	10.98
10,000	1290	9,227	10.61	1316	9,525	10.96	1343	9,845	11.32	1370	10,181	11.71	1399	10,536	12.12
10,500	1340	10,321	11.87	1364	10,617	12.21	1389	10,932	12.57	—	—	—	—	—	—
11,000	1391	11,505	13.23	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 799 to 965 rpm. For standard motor with alternate drive, the drive range is 939 to 1152 rpm. For alternate motor with standard drive, the drive range is 945 to 1187 rpm. For alternate motor with optional drive, the drive range is 1152 to 1366 rpm. All other rpms require a field-supplied drive.

NOTES:

1. Maximum continuous Bhp for the standard motor is 8.63. Maximum continuous Bhp for the alternate motor is 11.50. The maximum continuous watts for the standard motor is 6438. The maximum continuous watts for the alternate motor is 8579. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

48HGE/L028 AND 48HGF/M028 (Medium and High Heat Units)*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	799	2,730	3.14	833	2,914	3.35	872	3,135	3.61	914	3,392	3.90	958	3,687	4.24
7,000	856	3,294	3.79	887	3,481	4.00	921	3,699	4.25	958	3,950	4.54	999	4,235	4.87
7,500	913	3,929	4.52	941	4,118	4.74	972	4,335	4.99	1006	4,582	5.27	1042	4,860	5.59
8,000	971	4,637	5.33	996	4,829	5.55	1024	5,046	5.80	1055	5,290	6.08	1088	5,562	6.40
8,500	1029	5,421	6.24	1052	5,617	6.46	1078	5,835	6.71	1106	6,077	6.99	1136	6,345	7.30
9,000	1087	6,285	7.23	1108	6,484	7.46	1132	6,703	7.71	1158	6,946	7.99	1185	7,211	8.29
9,500	1145	7,231	8.32	1165	7,433	8.55	1187	7,655	8.80	1211	7,898	9.08	1236	8,161	9.39
10,000	1203	8,262	9.50	1222	8,468	9.74	1243	8,693	10.00	1265	8,936	10.28	1288	9,199	10.58
10,500	1261	9,381	10.79	1279	9,592	11.03	1299	9,820	11.29	1319	10,065	11.58	1341	10,327	11.88
11,000	1320	10,592	12.18	1337	10,807	12.43	1355	11,038	12.70	1374	11,284	12.98	1394	11,547	13.28
11,500	1378	11,896	13.68	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

48HGE/L028 AND 48HGF/M028 (Medium and High Heat Units)* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	1005	4,020	4.62	1052	4,390	5.05	1100	4,791	5.51	1148	5,221	6.00	1195	5673	6.52
7,000	1041	4,555	5.24	1084	4,908	5.64	1128	5,294	6.09	1172	5,710	6.57	1217	6153	7.08
7,500	1080	5,168	5.94	1119	5,508	6.33	1160	5,878	6.76	1201	6,279	7.22	1242	6708	7.71
8,000	1122	5,862	6.74	1158	6,190	7.12	1195	6,548	7.53	1233	6,934	7.97	1272	7347	8.45
8,500	1167	6,638	7.63	1200	6,959	8.00	1234	7,305	8.40	1269	7,677	8.83	1304	8076	9.29
9,000	1214	7,499	8.63	1244	7,813	8.99	1275	8,149	9.37	1308	8,511	9.79	1340	8896	10.23
9,500	1262	8,447	9.72	1290	8,754	10.07	1319	9,084	10.45	1349	9,437	10.85	1379	9812	11.28
10,000	1312	9,482	10.91	1338	9,785	11.25	1365	10,110	11.63	1392	10,454	12.02	—	—	—
10,500	1363	10,608	12.20	1387	10,909	12.55	—	—	—	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 799 to 965 rpm. For standard motor with alternate drive, the drive range is 939 to 1152 rpm. For alternate motor with standard drive, the drive range is 945 to 1185 rpm. For alternate motor with optional drive, the drive range is 1152 to 1366 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 8.63. Maximum continuous Bhp for the alternate motor is 11.50. The maximum continuous watts for the standard motor is 6438. The maximum continuous watts for the alternate motor is 8579. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

50HG014*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	445	546	0.63	526	712	0.82	603	892	1.03	681	1102	1.27	761	1346	1.55
4000	484	718	0.83	559	896	1.03	627	1079	1.24	694	1280	1.47	763	1505	1.73
4500	524	923	1.06	596	1116	1.28	658	1308	1.50	717	1508	1.73	777	1724	1.98
5000	566	1166	1.34	634	1373	1.58	692	1576	1.81	747	1781	2.05	800	1996	2.30
5500	608	1450	1.67	672	1667	1.92	729	1884	2.17	780	2099	2.41	829	2318	2.67
6000	651	1777	2.04	712	2002	2.30	766	2232	2.57	815	2459	2.83	862	2686	3.09
6500	695	2152	2.47	753	2381	2.74	805	2623	3.02	852	2863	3.29	897	3100	3.57
7000	740	2576	2.96	794	2807	3.23	844	3059	3.52	890	3312	3.81	933	3561	4.10
7500	785	3051	3.51	836	3282	3.77	885	3544	4.08	929	3807	4.38	971	4069	4.68
8000	831	3581	4.12	878	3810	4.38	925	4077	4.69	969	4352	5.01	1009	4625	5.32
8500	878	4167	4.79	922	4394	5.05	966	4664	5.36	1008	4948	5.69	1048	5233	6.02

50HG014* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
4000	833	1759	2.02	†	†	†	†	†	†	†	†	†	†	†	†
4500	838	1961	2.26	900	2223	2.56	962	2507	2.88	†	†	†	†	†	†
5000	854	2226	2.56	909	2473	2.84	964	2740	3.15	1020	3029	3.48	†	†	†
5500	878	2546	2.93	927	2787	3.21	976	3042	3.50	1026	3315	3.81	1077	3606	4.15
6000	907	2918	3.36	952	3158	3.63	996	3408	3.92	1041	3672	4.22	1087	3950	4.54
6500	939	3339	3.84	981	3583	4.12	1022	3834	4.41	1063	4094	4.71	1105	4364	5.02
7000	974	3809	4.38	1013	4059	4.67	1052	4314	4.96	1090	4575	5.26	1128	4843	5.57
7500	1010	4328	4.98	1047	4587	5.28	1084	4848	5.58	1120	5112	5.88	1156	5382	6.19
8000	1047	4896	5.63	1083	5165	5.94	1118	5435	6.25	1153	5706	6.56	1187	5980	6.88
8500	1085	5515	6.34	1120	5795	6.66	1154	6074	6.99	1187	6353	7.31	1220	6634	7.63

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For standard motor with alternate drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

†Contact Carrier Applications Engineering for operation in this region.

NOTES:

1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

50HG016*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	445	546	0.63	526	712	0.82	603	892	1.03	681	1102	1.27	761	1346	1.55
4000	484	718	0.83	559	896	1.03	627	1079	1.24	694	1280	1.47	763	1505	1.73
4500	524	923	1.06	596	1116	1.28	658	1308	1.50	717	1508	1.73	777	1724	1.98
5000	566	1166	1.34	634	1373	1.58	692	1576	1.81	747	1781	2.05	800	1996	2.30
5500	608	1450	1.67	672	1667	1.92	729	1884	2.17	780	2099	2.41	829	2318	2.67
6000	651	1777	2.04	712	2002	2.30	766	2232	2.57	815	2459	2.83	862	2686	3.09
6500	695	2152	2.47	753	2381	2.74	805	2623	3.02	852	2863	3.29	897	3100	3.57
7000	740	2576	2.96	794	2807	3.23	844	3059	3.52	890	3312	3.81	933	3561	4.10
7500	785	3051	3.51	836	3282	3.77	885	3544	4.08	929	3807	4.38	971	4069	4.68
8000	831	3581	4.12	878	3810	4.38	925	4077	4.69	969	4352	5.01	1009	4625	5.32
8500	878	4167	4.79	922	4394	5.05	966	4664	5.36	1008	4948	5.69	1048	5233	6.02

50HG016* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
4000	833	1759	2.02	†	†	†	†	†	†	†	†	†	†	†	†
4500	838	1961	2.26	900	2223	2.56	962	2507	2.88	†	†	†	†	†	†
5000	854	2226	2.56	909	2473	2.84	964	2740	3.15	1020	3029	3.48	†	†	†
5500	878	2546	2.93	927	2787	3.21	976	3042	3.50	1026	3315	3.81	1077	3606	4.15
6000	907	2918	3.36	952	3158	3.63	996	3408	3.92	1041	3672	4.22	1087	3950	4.54
6500	939	3339	3.84	981	3583	4.12	1022	3834	4.41	1063	4094	4.71	1105	4364	5.02
7000	974	3809	4.38	1013	4059	4.67	1052	4314	4.96	1090	4575	5.26	1128	4843	5.57
7500	1010	4328	4.98	1047	4587	5.28	1084	4848	5.58	1120	5112	5.88	1156	5382	6.19
8000	1047	4896	5.63	1083	5165	5.94	1118	5435	6.25	1153	5706	6.56	1187	5980	6.88
8500	1085	5515	6.34	1120	5795	6.66	1154	6074	6.99	1187	6353	7.31	1220	6634	7.63

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 618 to 789 rpm (208/230 and 460-v units) or 609 to 778 (575-v units). For standard motor with alternate drive, the drive range is 485 to 613 rpm (208/230 and 460-v units) or 472 to 619 (575-v units). For alternate motor with standard drive, the drive range is 778 to 1021 rpm. For alternate motor with optional drive, the drive range is 1000 to 1227 rpm. All other rpms require a field-supplied drive.

†Contact Carrier Applications engineering for operation in this region.

NOTES:

1. Maximum continuous Bhp for the standard motor is 4.25 (for 208/230 and 460-v units) or 3.45 (for 575-v units). Maximum continuous Bhp for the alternate motor is 5.75. The maximum continuous watts for the standard motor is 3171 (for 208/230 and 460-v units) or 2574 (for 575-v units). The maximum continuous watts for the alternate motor is 4290. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

50HG020*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	445	546	0.63	526	712	0.82	603	892	1.03	681	1102	1.27	761	1346	1.55
4000	484	718	0.83	559	896	1.03	627	1079	1.24	694	1280	1.47	763	1505	1.73
4500	524	923	1.06	596	1116	1.28	658	1308	1.50	717	1508	1.73	777	1724	1.98
5000	566	1166	1.34	634	1373	1.58	692	1576	1.81	747	1781	2.05	800	1996	2.30
5500	608	1450	1.67	672	1667	1.92	729	1884	2.17	780	2099	2.41	829	2318	2.67
6000	651	1777	2.04	712	2002	2.30	766	2232	2.57	815	2459	2.83	862	2686	3.09
6500	695	2152	2.47	753	2381	2.74	805	2623	3.02	852	2863	3.29	897	3100	3.57
7000	740	2576	2.96	794	2807	3.23	844	3059	3.52	890	3312	3.81	933	3561	4.10
7500	785	3051	3.51	836	3282	3.77	885	3544	4.08	929	3807	4.38	971	4069	4.68
8000	831	3581	4.12	878	3810	4.38	925	4077	4.69	969	4352	5.01	1009	4625	5.32
8500	878	4167	4.79	922	4394	5.05	966	4664	5.36	1008	4948	5.69	1048	5233	6.02

50HG020* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
4000	833	1759	2.02	†	†	†	†	†	†	†	†	†	†	†	†
4500	838	1961	2.26	900	2223	2.56	962	2507	2.88	†	†	†	†	†	†
5000	854	2226	2.56	909	2473	2.84	964	2740	3.15	1020	3029	3.48	†	†	†
5500	878	2546	2.93	927	2787	3.21	976	3042	3.50	1026	3315	3.81	1077	3606	4.15
6000	907	2918	3.36	952	3158	3.63	996	3408	3.92	1041	3672	4.22	1087	3950	4.54
6500	939	3339	3.84	981	3583	4.12	1022	3834	4.41	1063	4094	4.71	1105	4364	5.02
7000	974	3809	4.38	1013	4059	4.67	1052	4314	4.96	1090	4575	5.26	1128	4843	5.57
7500	1010	4328	4.98	1047	4587	5.28	1084	4848	5.58	1120	5112	5.88	1156	5382	6.19
8000	1047	4896	5.63	1083	5165	5.94	1118	5435	6.25	1153	5706	6.56	1187	5980	6.88
8500	1085	5515	6.34	1120	5795	6.66	1154	6074	6.99	1187	6353	7.31	1220	6634	7.63

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

†Contact Carrier Applications Engineering for operation in this region.

NOTES:

1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

50HG024*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	575	1193	1.37	642	1400	1.61	700	1603	1.84	754	1810	2.08	808	2028	2.33
5,500	619	1483	1.71	682	1702	1.96	737	1918	2.21	788	2134	2.45	837	2355	2.71
6,000	663	1817	2.09	723	2046	2.35	776	2276	2.62	825	2503	2.88	871	2731	3.14
6,500	708	2198	2.53	765	2435	2.80	816	2677	3.08	863	2916	3.35	906	3155	3.63
7,000	753	2629	3.02	807	2871	3.30	857	3125	3.59	902	3377	3.88	944	3626	4.17
7,500	800	3112	3.58	850	3357	3.86	898	3621	4.16	942	3885	4.47	982	4146	4.77
8,000	847	3650	4.20	894	3897	4.48	940	4169	4.80	982	4445	5.11	1022	4717	5.43
8,500	894	4244	4.88	939	4491	5.17	982	4770	5.49	1024	5056	5.82	1062	5340	6.14
9,000	941	4896	5.63	983	5145	5.92	1025	5428	6.24	1065	5723	6.58	1103	6018	6.92
9,500	989	5610	6.45	1029	5858	6.74	1069	6145	7.07	1108	6447	7.41	1144	6753	7.77
10,000	1037	6386	7.34	1075	6634	7.63	1113	6923	7.96	1150	7231	8.32	1186	7546	8.68

50HG024* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	862	2260	2.60	917	2510	2.89	972	2781	3.20	1028	3073	3.53	1084	3384	3.89
5,500	886	2586	2.97	935	2829	3.25	985	3089	3.55	1035	3365	3.87	1086	3660	4.21
6,000	916	2965	3.41	960	3207	3.69	1005	3461	3.98	1050	3728	4.29	1096	4009	4.61
6,500	949	3395	3.90	990	3641	4.19	1032	3894	4.48	1073	4157	4.78	1114	4430	5.10
7,000	984	3875	4.46	1023	4127	4.75	1062	4383	5.04	1100	4647	5.34	1139	4918	5.66
7,500	1021	4406	5.07	1059	4666	5.37	1095	4928	5.67	1131	5195	5.98	1167	5468	6.29
8,000	1059	4988	5.74	1095	5258	6.05	1130	5528	6.36	1165	5800	6.67	1199	6077	6.99
8,500	1099	5623	6.47	1133	5903	6.79	1167	6182	7.11	1200	6463	7.43	1232	6745	7.76
9,000	1138	6312	7.26	1172	6603	7.59	1205	6893	7.93	1237	7182	8.26	1268	7472	8.59
9,500	1179	7057	8.12	1212	7359	8.46	1244	7660	8.81	1275	7959	9.15	1305	8258	9.50
10,000	1220	7860	9.04	1252	8174	9.40	1283	8485	9.76	1313	8794	10.11	1342	9103	10.47

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 658 to 808 rpm. For standard motor with alternate drive, the drive range is 794 to 974 rpm. For alternate motor with standard drive, the drive range is 949 to 1145 rpm. For alternate motor with optional drive, the drive range is 1126 to 1328 rpm. All other rpms require a field-supplied drive.

NOTES:
1. Maximum continuous Bhp for the standard motor is 5.75. Maximum continuous Bhp for the alternate motor is 8.63. The maximum continuous watts for the standard motor is 4290. The maximum continuous watts for the alternate motor is 6438. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

FAN PERFORMANCE — 48/50HG014-028 (Horizontal Supply and Return) (cont)

50HG028*

CFM	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	759	2,517	2.89	804	2,753	3.17	844	2,975	3.42	883	3,202	3.68	922	3,445	3.96
7,000	810	3,020	3.47	853	3,274	3.77	891	3,509	4.04	928	3,743	4.30	964	3,986	4.58
7,500	862	3,581	4.12	903	3,856	4.43	939	4,105	4.72	974	4,348	5.00	1008	4,596	5.29
8,000	913	4,206	4.84	953	4,500	5.18	988	4,765	5.48	1021	5,019	5.77	1053	5,274	6.07
8,500	965	4,894	5.63	1003	5,209	5.99	1037	5,491	6.32	1069	5,758	6.62	1100	6,022	6.93
9,000	1017	5,651	6.50	1054	5,988	6.89	1087	6,285	7.23	1118	6,567	7.55	1147	6,841	7.87
9,500	1069	6,477	7.45	1105	6,834	7.86	1137	7,150	8.22	1167	7,446	8.56	1195	7,733	8.89
10,000	1121	7,376	8.48	1156	7,755	8.92	1187	8,089	9.30	1216	8,400	9.66	1243	8,699	10.01
10,500	1173	8,350	9.60	1207	8,751	10.06	1238	9,103	10.47	1266	9,430	10.85	1292	9,744	11.21
11,000	1226	9,401	10.81	1259	9,823	11.30	1288	10,194	11.72	1316	10,538	12.12	1342	10,866	12.50
11,500	1278	10,532	12.11	1310	10,975	12.62	1339	11,366	13.07	1366	11,726	13.49	—	—	—
12,000	1331	11,745	13.51	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

50HG028* (cont)

CFM	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	962	3,710	4.27	1003	4,005	4.61	1045	4,334	4.98	1090	4,701	5.41	1135	5,103	5.87
7,000	1000	4,245	4.88	1037	4,527	5.21	1075	4,836	5.56	1115	5,174	5.95	1155	5,547	6.38
7,500	1041	4,854	5.58	1075	5,129	5.90	1110	5,424	6.24	1145	5,744	6.61	1182	6,091	7.01
8,000	1085	5,535	6.37	1116	5,808	6.68	1148	6,096	7.01	1180	6,403	7.36	1214	6,733	7.74
8,500	1129	6,289	7.23	1159	6,563	7.55	1189	6,849	7.88	1219	7,149	8.22	1249	7,467	8.59
9,000	1175	7,115	8.18	1204	7,394	8.50	1232	7,681	8.83	1260	7,978	9.18	1288	8,289	9.53
9,500	1222	8,016	9.22	1249	8,301	9.55	1276	8,591	9.88	1302	8,890	10.22	1329	9,198	10.58
10,000	1270	8,993	10.34	1296	9,286	10.68	1321	9,582	11.02	1346	9,884	11.37	1371	10,193	11.72
10,500	1318	10,048	11.56	1343	10,351	11.90	1367	10,655	12.25	1391	10,960	12.61	—	—	—
11,000	1366	11,183	12.86	1390	11,496	13.22	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*For standard motor with standard drive, the drive range is 799 to 965 rpm. For standard motor with alternate drive, the drive range is 939 to 1152 rpm. For alternate motor with standard drive, the drive range is 945 to 1185 rpm. For alternate motor with optional drive, the drive range is 1152 to 1366 rpm. All other rpms require a field-supplied drive.

NOTES:

1. Maximum continuous Bhp for the standard motor is 8.63. Maximum continuous Bhp for the alternate motor is 11.50. The maximum continuous watts for the standard motor is 6438. The maximum continuous watts for the alternate motor is 8579. Do not adjust motor rpm such that motor maximum Bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering fan performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on filters, unit casing, and wet coil losses.
5. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Specifications table on page 54 for additional information.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)

POWER EXHAUST FAN PERFORMANCE — 48/50HG014-028

AIRFLOW	LOW SPEED						MEDIUM SPEED						HIGH SPEED					
	208 V			230,460,575V			208 V			230,460,575V			208 V			230,460,575V		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
3250	0.32	1.41	1580	0.70	1.49	1670	—	—	—	—	—	—	—	—	—	—	—	—
3350	0.23	1.44	1610	0.63	1.52	1700	0.60	1.51	1690	0.82	1.62	1810	—	—	—	—	—	—
3450	0.17	1.46	1635	0.59	1.55	1730	0.55	1.54	1720	0.78	1.64	1840	—	—	—	—	—	—
3550	0.13	1.47	1645	0.56	1.56	1745	0.49	1.56	1750	0.73	1.67	1870	—	—	—	—	—	—
3650	0.09	1.49	1665	0.53	1.58	1765	0.43	1.59	1780	0.68	1.70	1900	—	—	—	—	—	—
3750	—	—	—	0.51	1.60	1790	0.39	1.62	1815	0.64	1.72	1930	—	—	—	—	—	—
3850	—	—	—	0.48	1.62	1810	0.33	1.64	1835	0.59	1.74	1950	0.60	1.85	2070	0.73	1.99	2230
3950	—	—	—	0.45	1.64	1835	0.27	1.66	1860	0.54	1.76	1975	0.56	1.87	2095	0.69	2.01	2255
4050	—	—	—	0.40	1.67	1865	0.22	1.68	1885	0.49	1.79	2000	0.51	1.89	2120	0.65	2.04	2280
4250	—	—	—	—	—	—	0.17	1.74	1945	0.40	1.84	2060	0.41	1.92	2145	0.56	2.06	2310
4450	—	—	—	—	—	—	0.00	1.79	2005	0.30	1.89	2115	0.31	1.97	2205	0.47	2.12	2370
4650	—	—	—	—	—	—	—	—	—	0.22	1.94	2170	0.20	2.04	2280	0.37	2.19	2450
4850	—	—	—	—	—	—	—	—	—	0.16	1.98	2215	0.11	2.09	2335	0.30	2.24	2505
5050	—	—	—	—	—	—	—	—	—	0.12	2.02	2260	0.04	2.13	2385	0.23	2.28	2555
5250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.17	2.33	2610
5450	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	2.38	2665
5650	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	2.40	2690
5850	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	2.42	2710

LEGEND

ESP — External Static Pressure

ALTITUDE COMPENSATION* — 48HG014-028 (Natural Gas)

ELEVATION (feet)	NATURAL GAS ORIFICE SIZE†	
	Hi Heat	Lo Heat
0-1,999	29	29
2,000	29	29
3,000	30	30
4,000	30	30
5,000	30	30
6,000	30	30
7,000	31	31
8,000	31	31
9,000	31	31
10,000	32	32

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, heat input rate should be reduced at higher altitudes. Includes a 4% input reduction per each 100 ft.
†Orifices available through your Carrier dealer.

ALTITUDE COMPENSATION* — 48HG014-028 (Propane Gas)

ELEVATION (feet)	PROPANE GAS ORIFICE SIZE†	
	Hi Heat	Lo Heat
0-1,999	35	35
2,000	36	36
3,000	36	36
4,000	37	37
5,000	37	37
6,000	38	38
7,000	39	39
8,000	40	40
9,000	41	41
10,000	42	42

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, heat input rate should be reduced at higher altitudes. Includes a 4% input reduction per each 100 ft.
†Orifices available through your Carrier dealer.

ALTITUDE DERATING FACTOR* — 48HG014-028

ELEVATION (feet)	MAXIMUM HEATING (Btu/ft^3)
0-2,000	1,100
2,001-3,000	1,050
3,001-4,000	1,000
4,001-5,000	950
5,001-6,000	900

*Derating of the gas heating equipment to compensate for the effects of altitude is always required. Orifice change is not required if the fuel heating value (at sea level) is below the limits listed in the table above. Derating conditions must be 4% per thousand feet above sea level. For example, at 4000 ft, if the heating value of the gas exceeds 1000 Btu/ft^3, the unit will require a 16% derating. For elevations above 6000 ft, the same formula applies. For example, at 7000 ft, the unit will require a 28% derating of the maximum heating value per the National Fuel Gas Code.

ACCESSORY/FIOP STATIC PRESSURE (in. wg)* — 48/50HG014-028

COMPONENT	CFM								
	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000
Economizer	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10
4-in. Filters†	0.00	0.02	0.03	0.05	0.06	0.08	0.09	0.11	0.12

COMPONENT	CFM							
	8,500	9,000	9,500	10,000	10,500	11,000	11,500	12,000
Economizer	0.11	0.12	0.13	0.15	0.16	0.17	0.19	0.20
4-in. Filters†	0.14	0.15	0.17	0.18	0.20	0.21	0.23	0.24

LEGEND

FIOP — Factory-Installed Option

*The static pressure must be added to the external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance tables to determine blower rpm and watts.
†Four-inch filters are field-supplied.

ACCESSORY/FIOP ELECTRIC HEAT STATIC PRESSURE (in. wg) — 50HG014-028 UNITS

UNIT 50HG	Unit Voltages 208/240	Cfm	ELECTRIC HEATERS Nominal Heater Size (kW)	Pressure Drop (in. wg)	Nominal Heater Size (kW)	Pressure Drop (in. wg)	Nominal Heater Size (kW)	Pressure Drop (in. wg)
014	208/240-3-60	4,000	15	0.01	25	0.01	50	0.01
		5,000		0.01		0.01		0.02
		6,000		0.02		0.02		0.04
		6,250		0.02		0.02		0.04
	480-3-60	4,000		0.01		0.01		0.01
		5,000		0.02		0.01		0.02
		6,000		0.02		0.02		0.04
		6,250		0.02		0.02		0.04
	575-3-60	4,000		0.01		0.01		0.01
		5,000		0.01		0.01		0.02
		6,000		0.02		0.02		0.04
		6,250		0.02		0.02		0.04
016,020, 024,028	208/240-3-60	4,800	25	0.01	50	0.02	75	0.03
		5,000		0.01		0.02		0.04
		6,000		0.02		0.04		0.06
		7,000		0.03		0.06		0.08
		8,000		0.04		0.08		0.12
		9,000		0.05		0.10		0.15
		10,000		0.06		0.13		0.20
		11,500		0.09		0.18		0.27
	480-3-60	4,800		0.01		0.02		0.03
		5,000		0.01		0.02		0.04
		6,000		0.02		0.04		0.06
		7,000		0.03		0.06		0.08
		8,000		0.04		0.08		0.12
		9,000		0.05		0.10		0.15
		10,000		0.06		0.13		0.20
		11,500		0.09		0.18		0.27
	575-3-60	4,800		0.01		0.02		0.03
		5,000		0.01		0.02		0.04
		6,000		0.02		0.04		0.06
		7,000		0.03		0.06		0.08
		8,000		0.04		0.08		0.12
		9,000		0.05		0.10		0.15
		10,000		0.06		0.13		0.20
		11,500		0.09		0.18		0.27

LEGEND

FIOP — Factory-Installed Option

NOTES:
1. Heaters are rated at 240 v, 480 v, and 600 v.
2. The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance table to determine blower rpm, bhp, and watts.

EVAPORATOR FAN MOTOR EFFICIENCY

MOTOR HP	MOTOR EFFICIENCY (%)
3.0	81.7
3.7	85.8
5.0	87.5
7.5	88.5
10.0	89.5

NOTE: All indoor fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

Performance data (cont)

FAN RPM AT MOTOR PULLEY SETTINGS*

48/50HG	MOTOR AND DRIVE	TURNS OPEN												
		0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
014 (except 575 v)	Std. Motor/Std. Drive	613	602	592	581	570	560	549	538	528	517	506	496	485
	Std. Motor/Alt. Drive	789	775	761	746	732	718	704	689	675	661	647	632	618
	Alt. Motor/Std. Drive	1021	1001	981	960	940	920	900	879	859	839	819	798	778
	Alt. Motor/Alt. Drive	1227	1208	1189	1170	1151	1132	1114	1095	1076	1057	1038	1019	1000
014 (575 v)	Std. Motor/Std. Drive	619	607	595	582	570	558	546	533	521	509	497	484	472
	Std. Motor/Alt. Drive	778	764	750	736	722	708	694	679	665	651	637	623	609
	Alt. Motor/Std. Drive	1021	1001	981	960	940	920	900	879	859	839	819	798	778
	Alt. Motor/Alt. Drive	1227	1208	1189	1170	1151	1132	1114	1095	1076	1057	1038	1019	1000
016 (except 575 v)	Std. Motor/Std. Drive	789	775	761	746	732	718	704	689	675	661	647	632	618
	Std. Motor/Alt. Drive	613	602	592	581	570	560	549	538	528	517	506	496	485
	Alt. Motor/Std. Drive	1021	1001	981	960	940	920	900	879	859	839	819	798	778
	Alt. Motor/Alt. Drive	1227	1208	1189	1170	1151	1132	1114	1095	1076	1057	1038	1019	1000
016 (575 v)	Std. Motor/Std. Drive	778	764	750	736	722	708	694	679	665	651	637	623	609
	Std. Motor/Alt. Drive	619	607	595	582	570	558	546	533	521	509	497	484	472
	Alt. Motor/Std. Drive	1021	1001	981	960	940	920	900	879	859	839	819	798	778
	Alt. Motor/Alt. Drive	1227	1208	1189	1170	1151	1132	1114	1095	1076	1057	1038	1019	1000
020, 024	Std. Motor/Std. Drive	808	796	783	771	758	746	733	721	708	696	683	671	658
	Std. Motor/Alt. Drive	974	959	944	929	914	899	884	869	854	839	824	809	794
	Alt. Motor/Std. Drive	1145	1129	1112	1096	1080	1063	1047	1031	1014	998	982	965	949
	Alt. Motor/Alt. Drive	1328	1311	1294	1278	1261	1244	1227	1210	1193	1177	1160	1143	1126
028	Std. Motor/Std. Drive	965	951	937	924	910	896	882	868	854	841	827	813	799
	Std. Motor/Alt. Drive	1152	1134	1117	1099	1081	1063	1046	1028	1010	992	975	957	939
	Alt. Motor/Std. Drive	1187	1167	1147	1127	1106	1086	1066	1046	1026	1006	985	965	945
	Alt. Motor/Alt. Drive	1366	1348	1330	1313	1295	1277	1259	1241	1223	1206	1188	1170	1152

*Approximate Rpm shown.

EVAPORATOR FAN MOTOR SPECIFICATIONS

UNIT 48/50HG	OPTION	MOTOR P/N	NOMINAL HP	VOLTAGE	MAX WATTS	EFFICIENCY %	MAX BHP	MAX BkW	MAX AMPS
014	STD MOTOR	HD60FK651	3.7	208	3698	85.8	4.25	3.17	10.6
		HD60FK651	3.7	230	3698	85.8	4.25	3.17	9.6
		HD60FK651	3.7	460	3698	85.8	4.25	3.17	4.8
		HD58DL575	3.0	575	3149	81.7	3.45	2.57	3.9
	ALT MOTOR	HD60FK653	5.0	208	4900	87.5	5.75	4.29	16.7
		HD60FK653	5.0	230	4900	87.5	5.75	4.29	15.2
		HD60FK653	5.0	460	4900	87.5	5.75	4.29	7.6
		HD60FK575	5.0	575	4900	87.5	5.75	4.29	6.1
016	STD MOTOR	HD60FK651	3.7	208	3698	85.8	4.25	3.17	10.6
		HD60FK651	3.7	230	3698	85.8	4.25	3.17	9.6
		HD60FK651	3.7	460	3698	85.8	4.25	3.17	4.8
		HD58DL575	3.0	575	3149	81.7	3.45	2.57	3.9
	ALT MOTOR	HD60FK653	5.0	208	4900	87.5	5.75	4.29	16.7
		HD60FK653	5.0	230	4900	87.5	5.75	4.29	15.2
		HD60FK653	5.0	460	4900	87.5	5.75	4.29	7.6
		HD60FK575	5.0	575	4900	87.5	5.75	4.29	6.1
020	STD MOTOR	HD60FK653	5.0	208	4900	87.5	5.75	4.29	16.7
		HD60FK653	5.0	230	4900	87.5	5.75	4.29	15.2
		HD60FK653	5.0	460	4900	87.5	5.75	4.29	7.6
		HD60FK575	5.0	575	4900	87.5	5.75	4.29	6.1
	ALT MOTOR	HD62FK652	7.5	208	7267	88.5	8.63	6.43	24.2
		HD62FK652	7.5	230	7267	88.5	8.63	6.43	22.0
		HD62FK652	7.5	460	7267	88.5	8.63	6.43	11.0
		HD62FK576	7.5	575	7267	88.5	8.63	6.43	9.0
024	STD MOTOR	HD60FK653	5.0	208	4900	87.5	5.75	4.29	16.7
		HD60FK653	5.0	230	4900	87.5	5.75	4.29	15.2
		HD60FK653	5.0	460	4900	87.5	5.75	4.29	7.6
		HD60FK575	5.0	575	4900	87.5	5.75	4.29	6.1
	ALT MOTOR	HD62FK652	7.5	208	7267	88.5	8.63	6.43	24.2
		HD62FK652	7.5	230	7267	88.5	8.63	6.43	22.0
		HD62FK652	7.5	460	7267	88.5	8.63	6.43	11.0
		HD62FK576	7.5	575	7267	88.5	8.63	6.43	9.0
028	STD MOTOR	HD62FK652	7.5	208	7267	88.5	8.63	6.43	24.2
		HD62FK652	7.5	230	7267	88.5	8.63	6.43	22.0
		HD62FK652	7.5	460	7267	88.5	8.63	6.43	11.0
		HD62FK576	7.5	575	7267	88.5	8.63	6.43	9.0
	ALT MOTOR	HD64FK651	10.0	208	9582	89.5	11.50	8.58	30.8
		HD64FK651	10.0	230	9582	89.5	11.50	8.58	28.0
		HD64FK651	10.0	460	9582	89.5	11.50	8.58	14.0
		HD64FK575	10.0	575	9582	89.5	11.50	8.58	11.0

LEGEND

BkW — Brake kilowatts

48HG014-028 WITHOUT OPTIONAL CONVENIENCE OUTLET

UNIT SIZE 48HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			IFM		POWER EXHAUST			COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3													
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Qty	Hp	FLA (ea)	FLA	MCA	MOCP*	FLA
014	208/230	187	253	19.2	146.0	19.2	146.0	—	—	4	1/4	1.5	3.7	10.6/ 9.6	—	—	—	.45/.52	60/ 59	70/ 70	70/ 70
															2	1.0	5.9		72/ 71	90/ 90	80/ 80
													5.0	16.7/15.2	—	—	—		66/ 65	80/ 80	80/ 70
															2	1.0	5.9		78/ 77	90/ 90	90/ 90
	460	414	506	9.5	73.0	9.5	73.0	—	—	4	1/4	0.7	3.7	4.8	—	—	—	0.3	29	35	35
															2	1.0	3.1		35	40	40
													5.0	7.6	—	—	—		32	40	35
															2	1.0	3.1		38	45	45
	575	518	633	7.6	58.4	7.6	58.4	—	—	4	1/4	0.7	3.0	3.9	—	—	—	0.3	24	30	30
															2	1.0	3.1		30	35	35
													5.0	6.1	—	—	—		26	30	30
															2	1.0	3.1		33	40	40
016	208/230	187	253	16.7	130.0	16.7	130.0	16.7	130.0	4	1/4	1.5	3.7	10.6/ 9.6	—	—	—	.45/.52	71/ 70	80/ 80	80/ 80
															2	1.0	5.9		83/ 82	90/ 90	100/ 90
													5.0	16.7/15.2	—	—	—		77/ 76	90/ 90	90/ 90
															2	1.0	5.9		89/ 88	100/100	100/100
	460	414	506	9.0	70.0	9.0	70.0	9.0	70.0	4	1/4	0.7	3.7	4.8	—	—	—	0.3	37	45	45
															2	1.0	3.1		43	50	50
													5.0	7.6	—	—	—		40	45	45
															2	1.0	3.1		46	50	60
	575	518	633	7.0	55.0	7.0	55.0	7.0	55.0	4	1/4	0.7	3.0	3.9	—	—	—	0.3	30	35	35
															2	1.0	3.1		36	40	40
													5.0	6.1	—	—	—		32	35	35
															2	1.0	3.1		38	45	45
020	208/230	187	253	16.7	130.0	16.7	130.0	22.4	184.0	4	1/4	1.5	5.0	16.7/15.2	—	—	—	.45/.52	85/ 83	100/100	100/ 90
															2	1.0	5.9		96/ 95	110/110	110/110
													7.5	24.2/22.0	—	—	—		93/ 90	110/110	100/100
															2	1.0	5.9		104/102	125/110	125/125
	460	414	506	9.0	70.0	9.0	70.0	10.7	90.0	4	1/4	0.7	5.0	7.6	—	—	—	0.3	42	50	50
															2	1.0	3.1		48	50	60
													7.5	11.0	—	—	—		46	50	50
															2	1.0	3.1		52	60	60
	575	518	633	7.0	55.0	7.0	55.0	9.3	73.0	4	1/4	0.7	5.0	6.1	—	—	—	0.3	35	40	40
															2	1.0	3.1		41	50	45
													7.5	9.0	—	—	—		38	45	45
															2	1.0	3.1		44	50	50
024	208/230	187	253	22.4	184.0	22.4	184.0	22.4	184.0	4	1/4	1.5	5.0	16.7/15.2	—	—	—	.45/.52	96/ 95	110/110	110/110
															2	1.0	5.9		108/106	125/125	125/125
													7.5	24.2/22.0	—	—	—		104/101	125/110	125/125
															2	1.0	5.9		116/113	125/125	150/125
	460	414	506	10.7	90.0	10.7	90.0	10.7	90.0	4	1/4	0.7	5.0	7.6	—	—	—	0.3	45	50	50
															2	1.0	3.1		52	60	60
													7.5	11.0	—	—	—		49	50	60
															2	1.0	3.1		55	60	70
	575	518	633	9.3	73.0	9.3	73.0	9.3	73.0	4	1/4	0.7	5.0	6.1	—	—	—	0.3	39	45	45
															2	1.0	3.1		46	50	50
													7.5	9.0	—	—	—		42	50	50
															2	1.0	3.1		49	50	60
028	208/230	187	253	47.1	245.0	47.1	245.0	—	—	6	1/4	1.5	7.5	24.2/22.0	—	—	—	.45/.52	140/137	175/175	150/150
															2	1.0	5.9		151/149	175/175	175/175
													10.0	30.8/28.0	—	—	—		146/143	175/175	175/175
															2	1.0	5.9		158/155	200/200	175/175
	460	414	506	19.6	125.0	19.6	125.0	—	—	6	1/4	0.7	7.5	11.0	—	—	—	0.3	60	70	70
															2	1.0	3.1		66	80	80
													10.0	14.0	—	—	—		63	80	70
															2	1.0	3.1		69	80	80
	575	518	633	15.8	100.0	15.8	100.0	—	—	6	1/4	0.7	7.5	9.0	—	—	—	0.3	49	60	60
															2	1.0	3.1		55	70	60
													10.0	11.0	—	—	—		51	60	60
															2	1.0	3.1		57	70	70

See Legend and Notes on page 57.

48HG014-028 WITH OPTIONAL CONVENIENCE OUTLET

UNIT SIZE 48HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			IFM		POWER EXHAUST			COMBUSTION FAN MOTOR	POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3													
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	Qty	Hp	FLA (ea)	FLA	MCA	MOCP*	FLA
014	208/230	187	253	19.2	146.0	19.2	146.0	—	—	4	¼	1.5	3.7	10.6/ 9.6	—	—	—	.45/.52	65/ 64	80/ 80	70/ 70
															2	1.0	5.9		77/ 76	90/ 90	80/ 80
													5.0	16.7/15.2	—	—	—		71/ 70	90/ 80	80/ 70
															2	1.0	5.9		83/ 82	100/100	90/ 90
	460	414	506	9.5	73.0	9.5	73.0	—	—	4	¼	0.7	3.7	4.8	—	—	—	0.3	32	40	35
															2	1.0	3.1		38	45	40
													5.0	7.6	—	—	—		35	40	35
															2	1.0	3.1		41	50	45
	575	518	633	7.6	58.4	7.6	58.4	—	—	4	¼	0.7	3.0	3.9	—	—	—	0.3	27	30	30
															2	1.0	3.1		33	40	35
													5.0	6.1	—	—	—		29	35	30
															2	1.0	3.1		36	40	40
016	208/230	187	253	16.7	130.0	16.7	130.0	16.7	130.0	4	¼	1.5	3.7	10.6/ 9.6	—	—	—	.45/.52	76/ 75	90/ 90	80/ 80
															2	1.0	5.9		88/ 87	100/100	100/ 90
													5.0	16.7/15.2	—	—	—		82/ 81	90/ 90	90/ 90
															2	1.0	5.9		94/ 93	110/100	100/100
	460	414	506	9.0	70.0	9.0	70.0	9.0	70.0	4	¼	0.7	3.7	4.8	—	—	—	0.3	40	45	45
															2	1.0	3.1		46	50	50
													5.0	7.6	—	—	—		43	50	45
															2	1.0	3.1		49	50	60
	575	518	633	7.0	55.0	7.0	55.0	7.0	55.0	4	¼	0.7	3.0	3.9	—	—	—	0.3	33	35	35
															2	1.0	3.1		39	45	40
													5.0	6.1	—	—	—		35	40	35
															2	1.0	3.1		41	45	45
020	208/230	187	253	16.7	130.0	16.7	130.0	22.4	184.0	4	¼	1.5	5.0	16.7/15.2	—	—	—	.45/.52	90/ 88	110/110	100/ 90
															2	1.0	5.9		101/100	110/110	110/110
													7.5	24.2/22.0	—	—	—		98/ 95	110/110	100/100
															2	1.0	5.9		109/107	125/125	125/125
	460	414	506	9.0	70.0	9.0	70.0	10.7	90.0	4	¼	0.7	5.0	7.6	—	—	—	0.3	45	50	50
															2	1.0	3.1		51	60	60
													7.5	11.0	—	—	—		49	50	50
															2	1.0	3.1		55	60	60
	575	518	633	7.0	55.0	7.0	55.0	9.3	73.0	4	¼	0.7	5.0	6.1	—	—	—	0.3	38	45	40
															2	1.0	3.1		44	50	45
													7.5	9.0	—	—	—		41	50	45
															2	1.0	3.1		47	50	50
024	208/230	187	253	22.4	184.0	22.4	184.0	22.4	184.0	4	¼	1.5	5.0	16.7/15.2	—	—	—	.45/.52	101/100	110/110	110/110
															2	1.0	5.9		113/111	125/125	125/125
													7.5	24.2/22.0	—	—	—		109/106	125/125	125/125
															2	1.0	5.9		121/118	125/125	150/125
	460	414	506	10.7	90.0	10.7	90.0	10.7	90.0	4	¼	0.7	5.0	7.6	—	—	—	0.3	48	50	50
															2	1.0	3.1		55	60	60
													7.5	11.0	—	—	—		52	60	60
															2	1.0	3.1		58	60	70
	575	518	633	9.3	73.0	9.3	73.0	9.3	73.0	4	¼	0.7	5.0	6.1	—	—	—	0.3	42	50	45
															2	1.0	3.1		49	50	50
													7.5	9.0	—	—	—		45	50	50
															2	1.0	3.1		52	60	60
028	208/230	187	253	47.1	245.0	47.1	245.0	—	—	6	¼	1.5	7.5	24.2/22.0	—	—	—	.45/.52	145/142	175/175	150/150
															2	1.0	5.9		156/154	200/200	175/175
													10.0	30.8/28.0	—	—	—		151/148	175/175	175/175
															2	1.0	5.9		163/160	200/200	175/175
	460	414	506	19.6	125.0	19.6	125.0	—	—	6	¼	0.7	7.5	11.0	—	—	—	0.3	63	80	70
															2	1.0	3.1		69	80	80
													10.0	14.0	—	—	—		66	80	70
															2	1.0	3.1		72	90	80
	575	518	633	15.8	100.0	15.8	100.0	—	—	6	¼	0.7	7.5	9.0	—	—	—	0.3	52	60	60
															2	1.0	3.1		58	70	60
													10.0	11.0	—	—	—		54	60	60
															2	1.0	3.1		60	70	70

See Legend and Notes on page 57.

Carrier®

50HG014-028 WITHOUT OPTIONAL CONVENIENCE OUTLET

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE Min	VOLTAGE RANGE Max	COMPRESSOR No. 1 RLA	COMPRESSOR No. 1 LRA	COMPRESSOR No. 2 RLA	COMPRESSOR No. 2 LRA	COMPRESSOR No. 3 RLA	COMPRESSOR No. 3 LRA	OFM Qty	OFM Hp	OFM FLA (ea)	ELECTRIC HEAT kW	ELECTRIC HEAT FLA	IFM Hp	IFM FLA	POWER EXHAUST Qty	POWER EXHAUST Hp	POWER EXHAUST FLA (ea)	POWER SUPPLY MCA	POWER SUPPLY MOCP*	DISCONNECT SIZE FLA
014	208/230	187	253	19.2	146.0	19.2	146.0	—	—	4.0	1/4	1.5	—	—	3.7	10.6/ 9.6	—	—	—	60/ 59	70/ 70	70/ 70
																	2	1.0	5.9	72/ 71	90/ 80	80/ 80
															5.0	16.7/15.2	—	—	—	66/ 64	80/ 80	80/ 70
																	2	1.0	5.9	78/ 76	90/ 90	90/ 90
													12/16	33/ 38	3.7	10.6/ 9.6	—	—	—	60/ 60	70/ 70	70/ 70
																	2	1.0	5.9	72/ 74	90/ 80	80/ 80
															5.0	16.7/15.2	—	—	—	66/ 67	80/ 80	80/ 70
																	2	1.0	5.9	78/ 81	90/ 90	90/ 90
													19/25	52/ 60	3.7	10.6 /9.6	—	—	—	78/ 87	80/ 90	80/ 90
																	2	1.0	5.9	93/102	100/110	90/100
															5.0	16.7/15.2	—	—	—	86/ 94	90/100	80/ 90
																	2	1.0	5.9	101/109	110/110	100/110
													38/50	104/120	3.7	10.6/ 9.6	—	—	—	143/132	150/150	150/150
																	2	1.0	5.9	158/147	175/150	150/175
															5.0	16.7/15.2	—	—	—	151/139	175/150	150/175
																	2	1.0	5.9	166/154	175/175	175/175
	460	414	506	9.5	73.0	9.5	73.0	—	—	4.0	1/4	0.7	—	—	3.7	4.8	—	—	—	29	35	35
																	2	1.0	3.1	35	40	40
															5.0	7.6	—	—	—	32	40	35
																	2	1.0	3.1	38	45	45
													15	18	3.7	4.8	—	—	—	29	35	35
																	2	1.0	3.1	36	40	40
															5.0	7.6	—	—	—	32	40	35
																	2	1.0	3.1	40	45	45
													25	30	3.7	4.8	—	—	—	44	45	45
																	2	1.0	3.1	51	60	50
															5.0	7.6	—	—	—	47	50	45
																	2	1.0	3.1	55	60	60
													50	60	3.7	4.8	—	—	—	66	80	80
																	2	1.0	3.1	74	80	90
															5.0	7.6	—	—	—	70	80	80
																	2	1.0	3.1	77	80	90
	575	518	633	7.6	58.4	7.6	58.4	—	—	4.0	1/4	0.7	—	—	3.0	3.9	—	—	—	24	30	30
																	2	1.0	3.1	30	35	35
															5.0	6.1	—	—	—	26	30	30
																	2	1.0	3.1	32	35	35
													16	15	3.0	3.9	—	—	—	24	30	30
																	2	1.0	3.1	31	35	35
															5.0	6.1	—	—	—	26	30	30
																	2	1.0	3.1	34	35	35
													25	24	3.0	3.9	—	—	—	35	35	35
																	2	1.0	3.1	43	45	40
															5.0	6.1	—	—	—	38	40	35
																	2	1.0	3.1	45	50	45
													48	46	3.0	3.9	—	—	—	62	70	60
																	2	1.0	3.1	70	80	70
															5.0	6.1	—	—	—	65	70	60
																	2	1.0	3.1	73	80	70

LEGEND AND NOTES FOR ELECTRICAL DATA TABLES

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

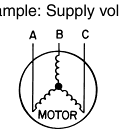
*Fuse or HACR circuit breaker.
†208/230 v 75-kW Electric Heat units must use dual-point wiring. The main table lists the branch circuit values for the refrigeration part of the system. The following two tables list the branch circuit values for the electric heat and values for a feeder circuit for both branch circuits.

NOTES:
1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

% Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460-3-60.



AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

> IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

50HG Units Only (Notes 3-6)

3. The 75-kW 208/240-v electric heat can be factory installed but it must be wired separately in the field.
4. The convenience outlet full load amps (FLA) are 5, 3 and 3 for 208/230, 460, 575-v units, respectively.
5. The FLA load amps provided in the table for electric heaters are based on 208/240, 480 and 600 v.
6. MCA calculation for 50HG014-028 units with electric heaters over 50 kW is = 1.25 x (IFM + Power Exhaust + Convenience Outlet FLA amps) + 1.00 x (Electric Heater FLA).

50HG014-028 UNITS WITHOUT OPTIONAL CONVENIENCE OUTLET (cont)

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
016	208/230	187	253	16.7	130.0	16.7	130.0	16.7	130.0	4.0	1/4	1.5	—	—	3.7	10.6/ 9.6	—	—	—	71/ 70	80/ 80	80/ 80
																	2	1.0	5.9	83/ 82	90/ 90	100/ 90
															5.0	16.7/15.2	—	—	—	77/ 75	90/ 90	90/ 90
																	2	1.0	5.9	89/ 87	100/100	100/100
													19/25	52/ 60	3.7	10.6/ 9.6	—	—	—	78/ 87	80/ 90	80/ 90
																	2	1.0	5.9	93/102	100/110	100/100
															5.0	16.7/15.2	—	—	—	86/ 94	90/100	90/ 90
																	2	1.0	5.9	101/109	110/110	100/110
													38/50	104/120	3.7	10.6/ 9.6	—	—	—	143/132	150/150	150/150
																	2	1.0	5.9	158/147	175/150	150/175
															5.0	16.7/15.2	—	—	—	151/139	175/150	150/175
																	2	1.0	5.9	166/154	175/175	175/175
													56/75†	156/180	3.7	10.6/ 9.6	—	—	—	71/ 70†	80/ 80†	80/ 80†
																	2	1.0	5.9	83/ 82†	90/ 90†	100/ 90†
															5.0	16.7/15.2	—	—	—	77/ 75†	90/ 90†	90/ 90†
																	2	1.0	5.9	89/ 87†	100/100†	100/100†
	460	414	506	9.0	70.0	9.0	70.0	9.0	70.0	4.0	1/4	0.7	—	—	3.7	4.8	—	—	—	37	45	40
																	2	1.0	3.1	43	50	50
															5.0	7.6	—	—	—	40	45	45
																	2	1.0	3.1	46	50	60
													25	30	3.7	4.8	—	—	—	44	45	45
																	2	1.0	3.1	51	60	50
															5.0	7.6	—	—	—	47	50	45
																	2	1.0	3.1	55	60	60
													50	60	3.7	4.8	—	—	—	66	80	80
																	2	1.0	3.1	74	80	90
															5.0	7.6	—	—	—	70	80	80
																	2	1.0	3.1	77	80	90
													75	90	3.7	4.8	—	—	—	96	110	110
																	2	1.0	3.1	104	110	125
															5.0	7.6	—	—	—	100	110	125
																	2	1.0	3.1	107	125	125
	575	518	633	7.0	55.0	7.0	55.0	7.0	55.0	4.0	1/4	0.7	—	—	3.0	3.9	—	—	—	29	35	35
																	2	1.0	3.1	36	40	40
															5.0	6.1	—	—	—	32	35	35
																	2	1.0	3.1	38	40	45
													25	24	3.0	3.9	—	—	—	35	35	35
																	2	1.0	3.1	43	45	40
															5.0	6.1	—	—	—	38	40	35
																	2	1.0	3.1	45	50	45
													48	46	3.0	3.9	—	—	—	62	70	60
																	2	1.0	3.1	70	80	70
															5.0	6.1	—	—	—	65	70	60
																	2	1.0	3.1	73	80	70
													78	75	3.0	3.9	—	—	—	80	90	100
																	2	1.0	3.1	88	100	100
															5.0	6.1	—	—	—	83	90	100
																	2	1.0	3.1	90	100	110

ELECTRIC HEAT BRANCH CIRCUIT FOR 208/240 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
016	208/240	187	253	NA	NA	NA	NA	NA	NA	NA	NA	NA	56/75	156/180	NA	NA	NA	NA	NA	156/180	175/200	200/225

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
016	208/230	187	253	16.7	130.0	16.7	130.0	16.7	130.0	4.0	1/4	1.5	56/75	156/180	3.7	10.6/ 9.6	—	—	—	169/192	200/225	200/225
																	2	1.0	5.9	184/207	200/225	225/250
															5.0	16.7/15.2	—	—	—	177/199	200/225	200/225
																	2	1.0	5.9	192/214	200/225	225/250

See Legend and Notes on page 57.

50HG014-028 UNITS WITHOUT OPTIONAL CONVENIENCE OUTLET (cont)

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
020	208/230	187	253	16.7	130.0	16.7	130.0	22.4	184.0	4.0	1/4	1.5	—	—	5.0	16.7/15.2	—	—	—	84/ 83	100/100	100/ 90
																	2	1.0	5.9	96/ 94	110/110	110/110
															7.5	24.2/22.0	—	—	—	92/ 89	110/110	100/100
																	2	1.0	5.9	104/101	125/110	125/110
													19/25	52/ 60	5.0	16.7/15.2	—	—	—	86/ 94	100/100	100/ 90
																	2	1.0	5.9	101/109	110/110	110/110
															7.5	24.2/22.0	—	—	—	95/103	110/110	100/100
																	2	1.0	5.9	110/117	125/125	125/110
													38/50	104/120	5.0	16.7/15.2	—	—	—	151/139	175/150	150/175
																	2	1.0	5.9	166/154	175/175	175/175
															7.5	24.2/22.0	—	—	—	160/148	175/150	150/175
																	2	1.0	5.9	175/162	200/175	175/200
													56/75†	156/180	5.0	16.7/15.2	—	—	—	84/ 83†	100/100†	100/ 90†
																	2	1.0	5.9	96/ 94†	110/110†	110/110†
															7.5	24.2/22.0	—	—	—	92/ 89†	110/110†	100/100†
																	2	1.0	5.9	104/101†	125/110†	125/110†
	460	414	506	9.0	70.0	9.0	70.0	10.7	90.0	4.0	1/4	0.7	—	—	5.0	7.6	—	—	—	42	50	45
																	2	1.0	3.1	48	50	60
															7.5	11.0	—	—	—	45	50	50
																	2	1.0	3.1	51	60	60
													25	30	5.0	7.6	—	—	—	47	50	45
																	2	1.0	3.1	55	60	60
															7.5	11.0	—	—	—	51	60	50
																	2	1.0	3.1	59	60	60
													50	60	5.0	7.6	—	—	—	70	80	80
																	2	1.0	3.1	77	80	90
															7.5	11.0	—	—	—	74	80	90
																	2	1.0	3.1	82	90	90
													75	90	5.0	7.6	—	—	—	100	110	125
																	2	1.0	3.1	107	125	125
															7.5	11.0	—	—	—	104	125	125
																	2	1.0	3.1	112	125	125
	575	518	633	7.0	55.0	7.0	55.0	9.3	73.0	4.0	1/4	0.7	—	—	5.0	6.1	—	—	—	35	40	40
																	2	1.0	3.1	41	50	45
															7.5	9.0	—	—	—	37	45	45
																	2	1.0	3.1	44	50	50
													25	24	5.0	6.1	—	—	—	38	40	40
																	2	1.0	3.1	45	50	45
															7.5	9.0	—	—	—	41	45	45
																	2	1.0	3.1	49	50	50
													48	46	5.0	6.1	—	—	—	65	70	60
																	2	1.0	3.1	73	80	70
															7.5	9.0	—	—	—	69	70	70
																	2	1.0	3.1	77	80	80
													78	75	5.0	6.1	—	—	—	83	90	100
																	2	1.0	3.1	90	100	110
															7.5	9.0	—	—	—	86	100	100
																	2	1.0	3.1	94	100	110

ELECTRIC HEAT BRANCH CIRCUIT FOR 208/240 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
020	208/240	187	253	NA	NA	NA	NA	NA	NA	NA	NA	NA	56/75	156/180	NA	NA	NA	NA	NA	156/180	175/200	200/225

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
020	208/230	187	253	16.7	130.0	16.7	130.0	22.4	184.0	4.0	1/4	1.5	56/75	156/180	5.0	16.7/15.2	—	—	—	177/199	200/225	200/225
																	2	1.0	5.9	192/214	200/225	225/250
															7.5	24.2/22.0	—	—	—	186/208	200/225	225/250
																	2	1.0	5.9	201/222	225/225	225/250

See Legend and Notes on page 57.

Electrical data (cont)

50HG014-028 UNITS WITHOUT OPTIONAL CONVENIENCE OUTLET (cont)

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
024	208/230	187	253	22.4	184.0	22.4	184.0	22.4	184.0	4.0	1/4	1.5	—	—	5.0	16.7/15.2	—	—	—	96/ 94	110/110	110/110
																	2	1.0	5.9	107/106	125/125	125/125
															7.5	24.2/22.0	—	—	—	104/101	125/110	125/110
																	2	1.0	5.9	115/113	125/125	150/125
													19/25	52/ 60	5.0	16.7/15.2	—	—	—	96/ 94	110/110	110/110
																	2	1.0	5.9	107/109	125/125	125/125
															7.5	24.2/22.0	—	—	—	104/103	125/110	125/110
																	2	1.0	5.9	115/117	125/125	150/125
													38/50	104/120	5.0	16.7/15.2	—	—	—	151/139	175/150	150/175
																	2	1.0	5.9	166/154	175/175	175/175
															7.5	24.2/22.0	—	—	—	160/148	175/150	150/175
																	2	1.0	5.9	175/162	200/175	175/200
													56/75†	156/180	5.0	16.7/15.2	—	—	—	96/ 94†	110/110†	110/110†
																	2	1.0	5.9	107/106†	125/125†	125/125†
															7.5	24.2/22.0	—	—	—	104/101†	125/110†	125/110†
																	2	1.0	5.9	115/113†	125/125†	150/125†
	460	414	506	10.7	90.0	10.7	90.0	10.7	90.0	4.0	1/4	0.7	—	—	5.0	7.6	—	—	—	45	50	50
																	2	1.0	3.1	51	60	60
															7.5	11.0	—	—	—	49	50	60
																	2	1.0	3.1	55	60	60
													25	30	5.0	7.6	—	—	—	47	50	50
																	2	1.0	3.1	55	60	60
															7.5	11.0	—	—	—	51	60	60
																	2	1.0	3.1	59	60	60
													50	60	5.0	7.6	—	—	—	70	80	80
																	2	1.0	3.1	77	80	90
															7.5	11.0	—	—	—	74	80	90
																	2	1.0	3.1	82	90	90
													75	90	5.0	7.6	—	—	—	100	110	125
																	2	1.0	3.1	107	125	125
															7.5	11.0	—	—	—	104	125	125
																	2	1.0	3.1	112	125	125
	575	518	633	9.3	73.0	9.3	73.0	9.3	73.0	4.0	1/4	0.7	—	—	5.0	6.1	—	—	—	39	45	45
																	2	1.0	3.1	45	50	50
															7.5	9.0	—	—	—	42	50	50
																	2	1.0	3.1	48	50	60
													25	24	5.0	6.1	—	—	—	39	45	45
																	2	1.0	3.1	45	50	50
															7.5	9.0	—	—	—	42	50	50
																	2	1.0	3.1	49	50	60
													48	46	5.0	6.1	—	—	—	65	70	60
																	2	1.0	3.1	73	80	70
															7.5	9.0	—	—	—	69	70	70
																	2	1.0	3.1	77	80	80
													78	75	5.0	6.1	—	—	—	83	90	100
																	2	1.0	3.1	90	100	110
															7.5	9.0	—	—	—	86	100	100
																	2	1.0	3.1	94	100	110

ELECTRIC HEAT BRANCH CIRCUIT FOR 208/240 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
024	208/240	187	253	NA	NA	NA	NA	NA	NA	NA	NA	NA	56/75	156/180	NA	NA	NA	NA	NA	156/180	175/200	200/225

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
024	208/230	187	253	22.4	184.0	22.4	184.0	22.4	184.0	4.0	1/4	1.5	56/75	156/180	5.0	16.7/15.2	—	—	—	177/199	200/225	200/225
																	2	1.0	5.9	192/214	200/225	225/250
															7.5	24.2/22	—	—	—	186/208	200/225	225/250
																	2	1.0	5.9	201/222	225/225	225/250

See Legend and Notes on page 57.

50HG014-028 UNITS WITHOUT OPTIONAL CONVENIENCE OUTLET (cont)

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR No. 1		COMPRESSOR No. 2		COMPRESSOR No. 3		OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
028	208/230	187	253	47.1	245.0	47.1	245.0	—	—	6.0	1/4	1.5	—	—	7.5	24.2/22.0	—	—	—	139/137	175/175	150/150
																	2	1.0	5.9	151/149	175/175	175/175
															10.0	30.8/28.0	—	—	—	146/143	175/175	175/175
																	2	1.0	5.9	158/155	200/200	175/175
													19/25	52/ 60	7.5	24.2/22.0	—	—	—	139/137	175/175	150/150
																	2	1.0	5.9	151/149	175/175	175/175
															10.0	30.8/28.0	—	—	—	146/143	175/175	175/175
																	2	1.0	5.9	158/155	200/200	175/175
													38/50	104/120	7.5	24.2/22.0	—	—	—	160/148	175/175	150/175
																	2	1.0	5.9	175/162	200/175	175/200
															10.0	30.8/28.0	—	—	—	169/155	175/175	175/175
																	2	1.0	5.9	183/170	200/200	175/200
													56/75†	156/180	7.5	24.2/22.0	—	—	—	139/137†	175/175†	150/150†
																	2	1.0	5.9	151/149†	175/175†	175/175†
															10.0	30.8/28.0	—	—	—	146/143†	175/175†	175/175†
																	2	1.0	5.9	158/155†	200/200†	175/175†
	460	414	506	19.6	125.0	19.6	125.0	—	—	6.0	1/4	0.7	—	—	7.5	11.0	—	—	—	59	70	70
																	2	1.0	3.1	66	80	70
															10.0	14.0	—	—	—	62	80	70
																	2	1.0	3.1	69	80	80
													25	30	7.5	11.0	—	—	—	59	70	70
																	2	1.0	3.1	66	80	70
															10.0	14.0	—	—	—	62	80	70
																	2	1.0	3.1	69	80	80
													50	60	7.5	11.0	—	—	—	74	80	90
																	2	1.0	3.1	82	90	90
															10.0	14.0	—	—	—	78	90	90
																	2	1.0	3.1	85	90	100
													75	90	7.5	11.0	—	—	—	104	125	125
																	2	1.0	3.1	112	125	125
															10.0	14.0	—	—	—	108	125	125
																	2	1.0	3.1	115	125	150
	575	518	633	15.8	100.0	15.8	100.0	—	—	6.0	1/4	0.7	—	—	7.5	9.0	—	—	—	49	60	60
																	2	1.0	3.1	55	70	60
															10.0	11.0	—	—	—	51	60	60
																	2	1.0	3.1	57	70	70
													25	24	7.5	9.0	—	—	—	49	60	60
																	2	1.0	3.1	55	70	60
															10.0	11.0	—	—	—	51	60	60
																	2	1.0	3.1	57	70	70
													48	46	7.5	9.0	—	—	—	69	70	70
																	2	1.0	3.1	77	80	80
															10.0	11.0	—	—	—	71	80	70
																	2	1.0	3.1	79	80	80
													78	75	7.5	9.0	—	—	—	86	100	100
																	2	1.0	3.1	94	100	110
															10.0	11.0	—	—	—	89	100	100
																	2	1.0	3.1	97	100	110

ELECTRIC HEAT BRANCH CIRCUIT FOR 208/240 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR No. 1		COMPRESSOR No. 2		COMPRESSOR No. 3		OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
028	208/240	187	253	NA	NA	NA	NA	NA	NA	NA	NA	NA	56/75	156/180	NA	NA	NA	NA	NA	156/180	175/200	200/225

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR No. 1		COMPRESSOR No. 2		COMPRESSOR No. 3		OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
028	208/230	187	253	47.1	245.0	47.1	245.0	—	—	6.0	1/4	1.5	56/75	156/180	7.5	24.2/22.0	—	—	—	186/208	200/225	225/250
																	2	1.0	5.9	201/222	225/225	225/250
															10.0	30.8/28.0	—	—	—	195/215	225/225	225/250
																	2	1.0	5.9	209/230	225/250	250/300

See Legend and Notes on page 57.

Electrical data (cont)

50HG014-028 UNITS WITH OPTIONAL CONVENIENCE OUTLET

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE Min	VOLTAGE RANGE Max	COMPRESSOR No. 1 RLA	COMPRESSOR No. 1 LRA	COMPRESSOR No. 2 RLA	COMPRESSOR No. 2 LRA	COMPRESSOR No. 3 RLA	COMPRESSOR No. 3 LRA	OFM Qty	OFM Hp	OFM FLA (ea)	ELECTRIC HEAT kW	ELECTRIC HEAT FLA	IFM Hp	IFM FLA	POWER EXHAUST Qty	POWER EXHAUST Hp	POWER EXHAUST FLA (ea)	POWER SUPPLY MCA	POWER SUPPLY MOCP*	DISCONNECT SIZE FLA
014	208/230	187	253	19.2	146.0	19.2	146.0	—	—	4.0	1/4	1.5	—	—	3.7	10.6/ 9.6	—	—	—	65/ 64	80/ 80	70/ 70
																	2	1.0	5.9	77/ 76	90/ 90	80/ 80
															5.0	16.7/15.2	—	—	—	71/ 69	90/ 80	80/ 70
																	2	1.0	5.9	83/ 81	100/100	90/ 90
													12/16	33/ 38	3.7	10.6/ 9.6	—	—	—	65/ 66	80/ 80	70/ 70
																	2	1.0	5.9	77/ 81	90/ 90	80/ 80
															5.0	16.7/15.2	—	—	—	71/ 73	90/ 80	80/ 70
																	2	1.0	5.9	83/ 88	100/100	90/ 90
													19/25	52/ 60	3.7	10.6/ 9.6	—	—	—	85/ 93	90/100	80/ 90
																	2	1.0	5.9	99/108	100/110	90/100
															5.0	16.7/15.2	—	—	—	92/100	100/110	80/ 90
																	2	1.0	5.9	107/115	110/125	100/110
													38/50	104/120	3.7	10.6/ 9.6	—	—	—	150/138	150/150	150/150
																	2	1.0	5.9	164/153	175/175	150/175
															5.0	16.7/15.2	—	—	—	157/145	175/150	150/175
																	2	1.0	5.9	172/160	175/175	175/175
	460	414	506	9.5	73.0	9.5	73.0	—	—	4.0	1/4	0.7	—	—	3.7	4.8	—	—	—	32	40	35
																	2	1.0	3.1	38	45	40
															5.0	7.6	—	—	—	35	40	35
																	2	1.0	3.1	41	50	45
													15	18	3.7	4.8	—	—	—	32	40	35
																	2	1.0	3.1	40	45	40
															5.0	7.6	—	—	—	36	40	35
																	2	1.0	3.1	44	50	45
													25	30	3.7	4.8	—	—	—	47	50	45
																	2	1.0	3.1	55	60	50
															5.0	7.6	—	—	—	51	60	45
																	2	1.0	3.1	59	60	60
													50	60	3.7	4.8	—	—	—	70	80	80
																	2	1.0	3.1	78	80	90
															5.0	7.6	—	—	—	73	80	80
																	2	1.0	3.1	81	90	90
	575	518	633	7.6	58.4	7.6	58.4	—	—	4.0	1/4	0.7	—	—	3.0	3.9	—	—	—	27	30	30
																	2	1.0	3.1	33	40	35
															5.0	6.1	—	—	—	29	35	30
																	2	1.0	3.1	36	40	35
													16	15	3.0	3.9	—	—	—	27	30	30
																	2	1.0	3.1	35	40	35
															5.0	6.1	—	—	—	30	35	30
																	2	1.0	3.1	38	40	35
													25	24	3.0	3.9	—	—	—	39	40	35
																	2	1.0	3.1	46	50	40
															5.0	6.1	—	—	—	41	45	35
																	2	1.0	3.1	49	50	45
													48	46	3.0	3.9	—	—	—	66	70	60
																	2	1.0	3.1	74	80	70
															5.0	6.1	—	—	—	69	70	60
																	2	1.0	3.1	77	80	70

See Legend and Notes on page 57.

50HG014-028 UNITS WITH OPTIONAL CONVENIENCE OUTLET (cont)

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR No. 1		COMPRESSOR No. 2		COMPRESSOR No. 3		OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
016	208/230	187	253	16.7	130.0	16.7	130.0	16.7	130.0	4.0	1/4	1.5	—	—	3.7	10.6/ 9.6	—	—	—	76/ 75	90/ 90	80/ 80
																	2	1.0	5.9	88/ 87	100/100	100/ 90
															5.0	16.7/15.2	—	—	—	82/ 80	90/ 90	90/ 90
																	2	1.0	5.9	94/ 92	110/100	100/100
													19/25	52/ 60	3.7	10.6/ 9.6	—	—	—	85/ 93	90/100	80/ 90
																	2	1.0	5.9	99/108	100/110	100/100
															5.0	16.7/15.2	—	—	—	92/100	100/110	90/ 90
																	2	1.0	5.9	107/115	110/125	100/110
													38/50	104/120	3.7	10.6/ 9.6	—	—	—	150/138	150/150	150/150
																	2	1.0	5.9	164/153	175/175	150/175
															5.0	16.7/15.2	—	—	—	157/145	175/150	150/175
																	2	1.0	5.9	172/160	175/175	175/175
													56/75†	156/180	3.7	10.6/ 9.6	—	—	—	76/ 75†	90/ 90†	80/ 80†
																	2	1.0	5.9	88/ 87†	100/100†	100/ 90†
															5.0	16.7/15.2	—	—	—	82/ 80†	90/ 90†	90/ 90†
																	2	1.0	5.9	94/ 92†	110/100†	100/100†
	460	414	506	9.0	70.0	9.0	70.0	9.0	70.0	4.0	1/4	0.7	—	—	3.7	4.8	—	—	—	40	45	40
																	2	1.0	3.1	46	50	50
															5.0	7.6	—	—	—	43	50	45
																	2	1.0	3.1	49	50	60
													25	30	3.7	4.8	—	—	—	47	50	45
																	2	1.0	3.1	55	60	50
															5.0	7.6	—	—	—	51	60	45
																	2	1.0	3.1	59	60	60
													50	60	3.7	4.8	—	—	—	70	80	80
																	2	1.0	3.1	78	80	90
															5.0	7.6	—	—	—	73	80	80
																	2	1.0	3.1	81	90	90
													75	90	3.7	4.8	—	—	—	100	110	110
																	2	1.0	3.1	108	125	125
															5.0	7.6	—	—	—	103	125	125
																	2	1.0	3.1	111	125	125
	575	518	633	7.0	55.0	7.0	55.0	7.0	55.0	4.0	1/4	0.7	—	—	3.0	3.9	—	—	—	32	35	35
																	2	1.0	3.1	39	45	40
															5.0	6.1	—	—	—	35	40	35
																	2	1.0	3.1	41	50	45
													25	24	3.0	3.9	—	—	—	39	40	35
																	2	1.0	3.1	46	50	40
															5.0	6.1	—	—	—	41	45	35
																	2	1.0	3.1	49	50	45
													48	46	3.0	3.9	—	—	—	66	70	60
																	2	1.0	3.1	74	80	70
															5.0	6.1	—	—	—	69	70	60
																	2	1.0	3.1	77	80	70
													78	75	3.0	3.9	—	—	—	84	90	100
																	2	1.0	3.1	91	100	100
															5.0	6.1	—	—	—	86	100	100
																	2	1.0	3.1	94	100	110

ELECTRIC HEAT BRANCH CIRCUIT FOR 208/240 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR No. 1		COMPRESSOR No. 2		COMPRESSOR No. 3		OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
016	208/240	187	253	NA	NA	NA	NA	NA	NA	NA	NA	NA	56/75	156/180	NA	NA	NA	NA	NA	156/180	175/200	200/225

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR No. 1		COMPRESSOR No. 2		COMPRESSOR No. 3		OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
016	208/230	187	253	16.7	130.0	16.7	130.0	16.7	130.0	4.0	1/4	1.5	56/75	156/180	3.7	10.6/ 9.6	—	—	—	176/198	200/225	200/225
																	2	1.0	5.9	190/213	200/225	225/250
															5.0	16.7/15.2	—	—	—	183/205	200/225	200/225
																	2	1.0	5.9	198/220	200/225	225/250

See Legend and Notes on page 57.

Electrical data (cont)

Carrier

50HG014-028 UNITS WITH OPTIONAL CONVENIENCE OUTLET (cont)

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
020	208/230	187	253	16.7	130.0	16.7	130.0	22.4	184.0	4.0	1/4	1.5	—	—	5.0	16.7/15.2	—	—	—	89/ 88	110/110	100/ 90
																	2	1.0	5.9	101/ 99	110/110	110/110
															7.5	24.2/22.0	—	—	—	97/ 94	110/110	100/100
																	2	1.0	5.9	109/106	125/125	125/110
													19/25	52/ 60	5.0	16.7/15.2	—	—	—	92/100	110/110	100/ 90
																	2	1.0	5.9	107/115	110/125	110/110
															7.5	24.2/22.0	—	—	—	102/109	110/110	100/100
																	2	1.0	5.9	116/124	125/125	125/110
													38/50	104/120	5.0	16.7/15.2	—	—	—	157/145	175/150	150/175
																	2	1.0	5.9	172/160	175/175	175/175
															7.5	24.2/22.0	—	—	—	167/154	175/175	150/175
																	2	1.0	5.9	181/169	200/175	175/200
													56/75†	156/180	5.0	16.7/15.2	—	—	—	89/ 88†	110/110†	100/ 90†
																	2	1.0	5.9	101/ 99†	110/110†	110/110†
															7.5	24.2/22.0	—	—	—	97/ 94†	110/110†	100/100†
																	2	1.0	5.9	109/106†	125/125†	125/110†
	460	414	506	9.0	70.0	9.0	70.0	10.7	90.0	4.0	1/4	0.7	—	—	5.0	7.6	—	—	—	45	50	45
																	2	1.0	3.1	51	60	60
															7.5	11.0	—	—	—	48	50	50
																	2	1.0	3.1	54	60	60
													25	30	5.0	7.6	—	—	—	51	60	45
																	2	1.0	3.1	59	60	60
															7.5	11.0	—	—	—	55	60	50
																	2	1.0	3.1	63	70	60
													50	60	5.0	7.6	—	—	—	73	80	80
																	2	1.0	3.1	81	90	90
															7.5	11.0	—	—	—	78	80	90
																	2	1.0	3.1	85	90	90
													75	90	5.0	7.6	—	—	—	103	125	125
																	2	1.0	3.1	111	125	125
															7.5	11.0	—	—	—	108	125	125
																	2	1.0	3.1	115	125	125
	575	518	633	7.0	55.0	7.0	55.0	9.3	73.0	4.0	1/4	0.7	—	—	5.0	6.1	—	—	—	38	45	40
																	2	1.0	3.1	44	50	45
															7.5	9.0	—	—	—	40	45	45
																	2	1.0	3.1	47	50	50
													25	24	5.0	6.1	—	—	—	41	45	40
																	2	1.0	3.1	49	50	45
															7.5	9.0	—	—	—	45	45	45
																	2	1.0	3.1	53	60	50
													48	46	5.0	6.1	—	—	—	69	70	60
																	2	1.0	3.1	77	80	70
															7.5	9.0	—	—	—	73	80	70
																	2	1.0	3.1	80	90	80
													78	75	5.0	6.1	—	—	—	86	100	100
																	2	1.0	3.1	94	100	110
															7.5	9.0	—	—	—	90	100	100
																	2	1.0	3.1	98	100	110

ELECTRIC HEAT BRANCH CIRCUIT FOR 208/240 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
020	208/240	187	253	NA	NA	NA	NA	NA	NA	NA	NA	NA	56/75	156/180	NA	NA	NA	NA	NA	156/180	175/200	200/225

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
020	208/230	187	253	16.7	130.0	16.7	130.0	22.4	184.0	4.0	1/4	1.5	56/75	156/180	5.0	16.7/15.2	—	—	—	183/205	200/225	200/225
																	2	1.0	5.9	198/220	200/225	225/250
															7.5	24.2/22.0	—	—	—	193/214	200/225	225/250
																	2	1.0	5.9	207/229	225/250	225/250

See Legend and Notes on page 57.

50HG014-028 UNITS WITH OPTIONAL CONVENIENCE OUTLET (cont)

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
024	208/230	187	253	22.4	184.0	22.4	184.0	22.4	184.0	4.0	1/4	1.5	—	—	5.0	16.7/15.2	—	—	—	101/ 99	110/110	110/110
																	2	1.0	5.9	112/111	125/125	125/125
															7.5	24.2/22.0	—	—	—	109/106	125/125	125/110
																	2	1.0	5.9	120/118	125/125	150/125
													19/25	52/ 60	5.0	16.7/15.2	—	—	—	101/100	110/110	110/110
																	2	1.0	5.9	112/115	125/125	125/125
															7.5	24.2/22.0	—	—	—	109/109	125/125	125/110
																	2	1.0	5.9	120/124	125/125	150/125
													38/50	104/120	5.0	16.7/15.2	—	—	—	157/145	175/150	150/175
																	2	1.0	5.9	172/160	175/175	175/175
															7.5	24.2/22.0	—	—	—	167/154	175/175	150/175
																	2	1.0	5.9	181/169	200/175	175/200
													56/75†	156/180	5.0	16.7/15.2	—	—	—	101/ 99†	110/110†	110/110†
																	2	1.0	5.9	112/111†	125/125†	125/125†
															7.5	24.2/22.0	—	—	—	109/106†	125/125†	125/110†
																	2	1.0	5.9	120/118†	125/125†	150/125†
	460	414	506	10.7	90.0	10.7	90.0	10.7	90.0	4.0	1/4	0.7	—	—	5.0	7.6	—	—	—	48	50	50
																	2	1.0	3.1	54	60	60
															7.5	11.0	—	—	—	52	60	60
																	2	1.0	3.1	58	60	60
													25	30	5.0	7.6	—	—	—	51	60	50
																	2	1.0	3.1	59	60	60
															7.5	11.0	—	—	—	55	60	60
																	2	1.0	3.1	63	70	60
													50	60	5.0	7.6	—	—	—	73	80	80
																	2	1.0	3.1	81	90	90
															7.5	11.0	—	—	—	78	80	90
																	2	1.0	3.1	85	90	90
													75	90	5.0	7.6	—	—	—	103	125	125
																	2	1.0	3.1	111	125	125
															7.5	11.0	—	—	—	108	125	125
																	2	1.0	3.1	115	125	125
	575	518	633	9.3	73.0	9.3	73.0	9.3	73.0	4.0	1/4	0.7	—	—	5.0	6.1	—	—	—	42	50	45
																	2	1.0	3.1	48	50	50
															7.5	9.0	—	—	—	45	50	50
																	2	1.0	3.1	51	60	60
													25	24	5.0	6.1	—	—	—	42	50	45
																	2	1.0	3.1	49	50	50
															7.5	9.0	—	—	—	45	50	50
																	2	1.0	3.1	53	60	60
													48	46	5.0	6.1	—	—	—	69	70	60
																	2	1.0	3.1	77	80	70
															7.5	9.0	—	—	—	73	80	70
																	2	1.0	3.1	80	90	80
													78	75	5.0	6.1	—	—	—	86	100	100
																	2	1.0	3.1	94	100	110
															7.5	9.0	—	—	—	90	100	100
																	2	1.0	3.1	98	100	110

ELECTRIC HEAT BRANCH CIRCUIT FOR 208/240 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
024	208/240	187	253	NA	NA	NA	NA	NA	NA	NA	NA	NA	56/75	156/180	NA	NA	NA	NA	NA	156/180	175/200	200/225

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
024	208/230	187	253	22.4	184.0	22.4	184.0	22.4	184.0	4.0	1/4	1.5	56/75	156/180	5.0	16.7/15.2	—	—	—	183/205	200/225	200/225
																	2	1.0	5.9	198/220	200/225	225/250
															7.5	24.2/22.0	—	—	—	193/214	200/225	225/250
																	2	1.0	5.9	207/229	225/250	225/250

See Legend and Notes on page 57.

Electrical data (cont)

50HG014-028 UNITS WITH OPTIONAL CONVENIENCE OUTLET (cont)

UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
028	208/230	187	253	47.1	245.0	47.1	245.0	—	—	6.0	1/4	1.5	—	—	7.5	24.2/22.0	—	—	—	144/142	175/175	150/150
																	2	1.0	5.9	156/154	200/200	175/175
															10.0	30.8/28.0	—	—	—	151/148	175/175	175/175
																	2	1.0	5.9	163/160	200/200	175/175
													19/25	52/ 60	7.5	24.2/22.0	—	—	—	144/142	175/175	150/150
																	2	1.0	5.9	156/154	200/200	175/175
															10.0	30.8/28.0	—	—	—	151/148	175/175	175/175
																	2	1.0	5.9	163/160	200/200	175/175
													38/50	104/120	7.5	24.2/22.0	—	—	—	167/154	175/175	150/175
																	2	1.0	5.9	181/169	200/200	175/200
															10.0	30.8/28.0	—	—	—	175/161	175/175	175/175
																	2	1.0	5.9	190/176	200/200	175/200
													56/75†	156/180	7.5	24.2/22.0	—	—	—	144/142†	175/175†	150/150†
																	2	1.0	5.9	156/154†	200/200†	175/175†
															10.0	30.8/28.0	—	—	—	151/148†	175/175†	175/175†
																	2	1.0	5.9	163/160†	200/200†	175/175†
	460	414	506	19.6	125.0	19.6	125.0	—	—	6.0	1/4	0.7	—	—	7.5	11.0	—	—	—	62	80	70
																	2	1.0	3.1	69	80	70
															10.0	14.0	—	—	—	65	80	70
																	2	1.0	3.1	72	90	80
													25	30	7.5	11.0	—	—	—	62	80	70
																	2	1.0	3.1	69	80	70
															10.0	14.0	—	—	—	65	80	70
																	2	1.0	3.1	72	90	80
													50	60	7.5	11.0	—	—	—	78	80	90
																	2	1.0	3.1	85	90	90
															10.0	14.0	—	—	—	81	90	90
																	2	1.0	3.1	89	100	100
													75	90	7.5	11.0	—	—	—	108	125	125
																	2	1.0	3.1	115	125	125
															10.0	14.0	—	—	—	111	125	125
																	2	1.0	3.1	119	125	150
	575	518	633	15.8	100.0	15.8	100.0	—	—	6.0	1/4	0.7	—	—	7.5	9.0	—	—	—	52	60	60
																	2	1.0	3.1	58	70	60
															10.0	11.0	—	—	—	54	60	60
																	2	1.0	3.1	60	70	70
													25	24	7.5	9.0	—	—	—	52	60	60
																	2	1.0	3.1	58	70	60
															10.0	11.0	—	—	—	54	60	60
																	2	1.0	3.1	60	70	70
													48	46	7.5	9.0	—	—	—	73	80	70
																	2	1.0	3.1	80	90	80
															10.0	11.0	—	—	—	75	80	70
																	2	1.0	3.1	83	90	80
													78	75	7.5	9.0	—	—	—	90	100	100
																	2	1.0	3.1	98	100	110
															10.0	11.0	—	—	—	93	100	100
																	2	1.0	3.1	100	110	110

ELECTRIC HEAT BRANCH CIRCUIT FOR 208/240 75-kW ELECTRIC HEAT

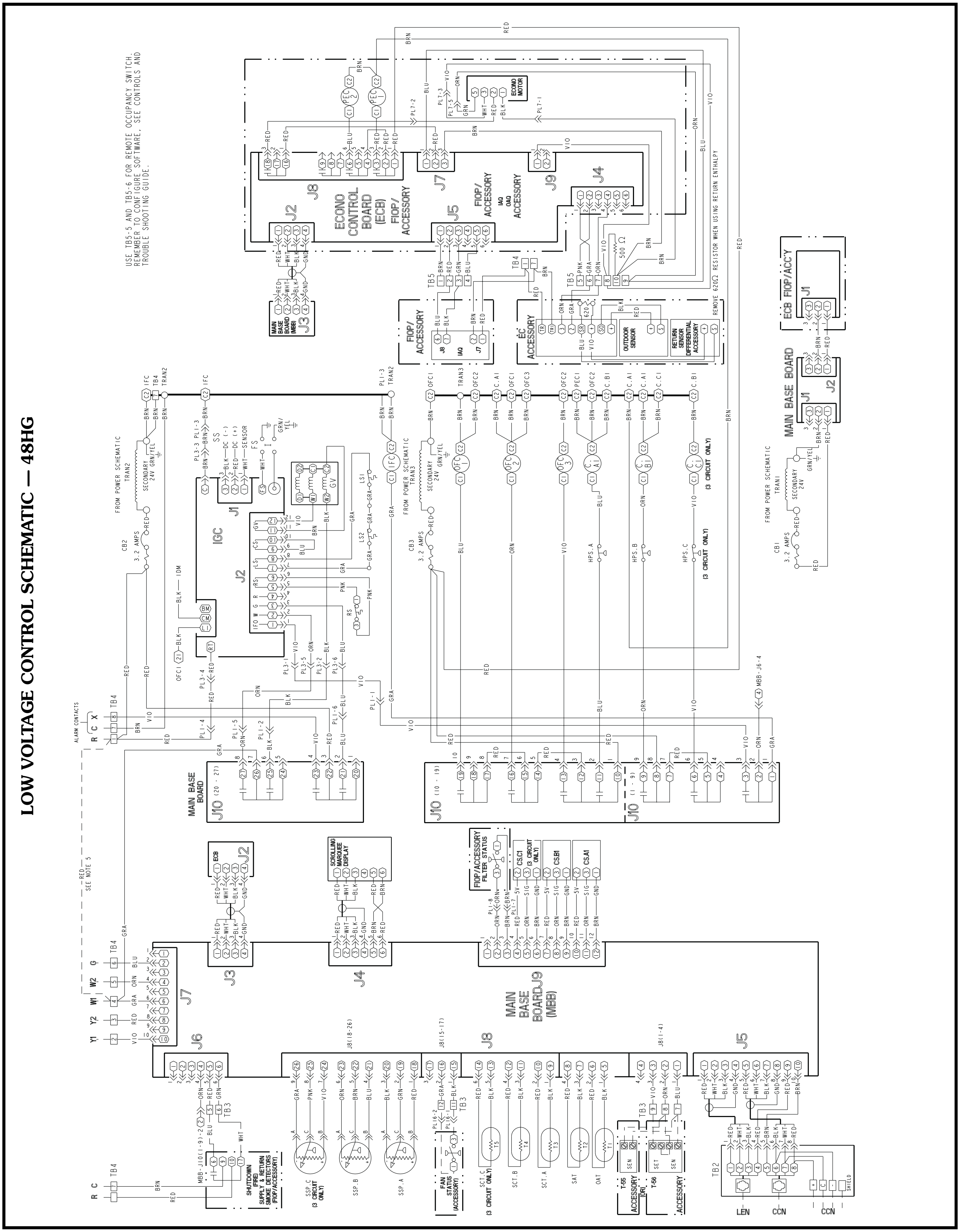
UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
028	208/240	187	253	NA	NA	NA	NA	NA	NA	NA	NA	NA	56/75	156/180	NA	NA	NA	NA	NA	156/180	175/200	200/225

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT

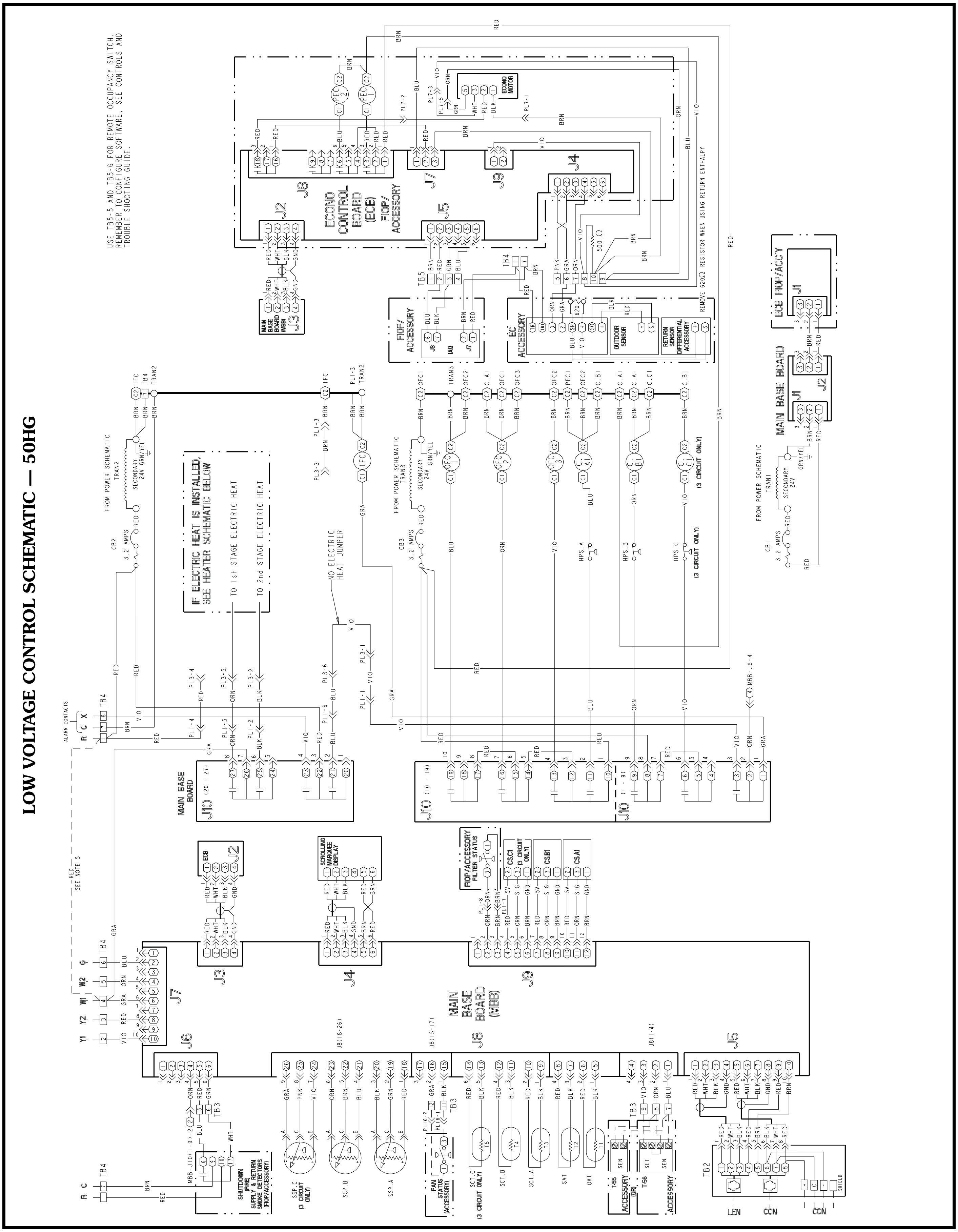
UNIT SIZE 50HG	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
028	208/230	187	253	47.1	245.0	47.1	245.0	—	—	6.0	1/4	1.5	56/75	156/180	7.5	24.2/22.0	—	—	—	193/214	200/225	225/250
																	2	1.0	5.9	207/229	225/250	225/250
															10.0	30.8/28.0	—	—	—	201/221	225/225	225/250
																	2	1.0	5.9	216/236	225/250	250/300

See Legend and Notes on page 57.

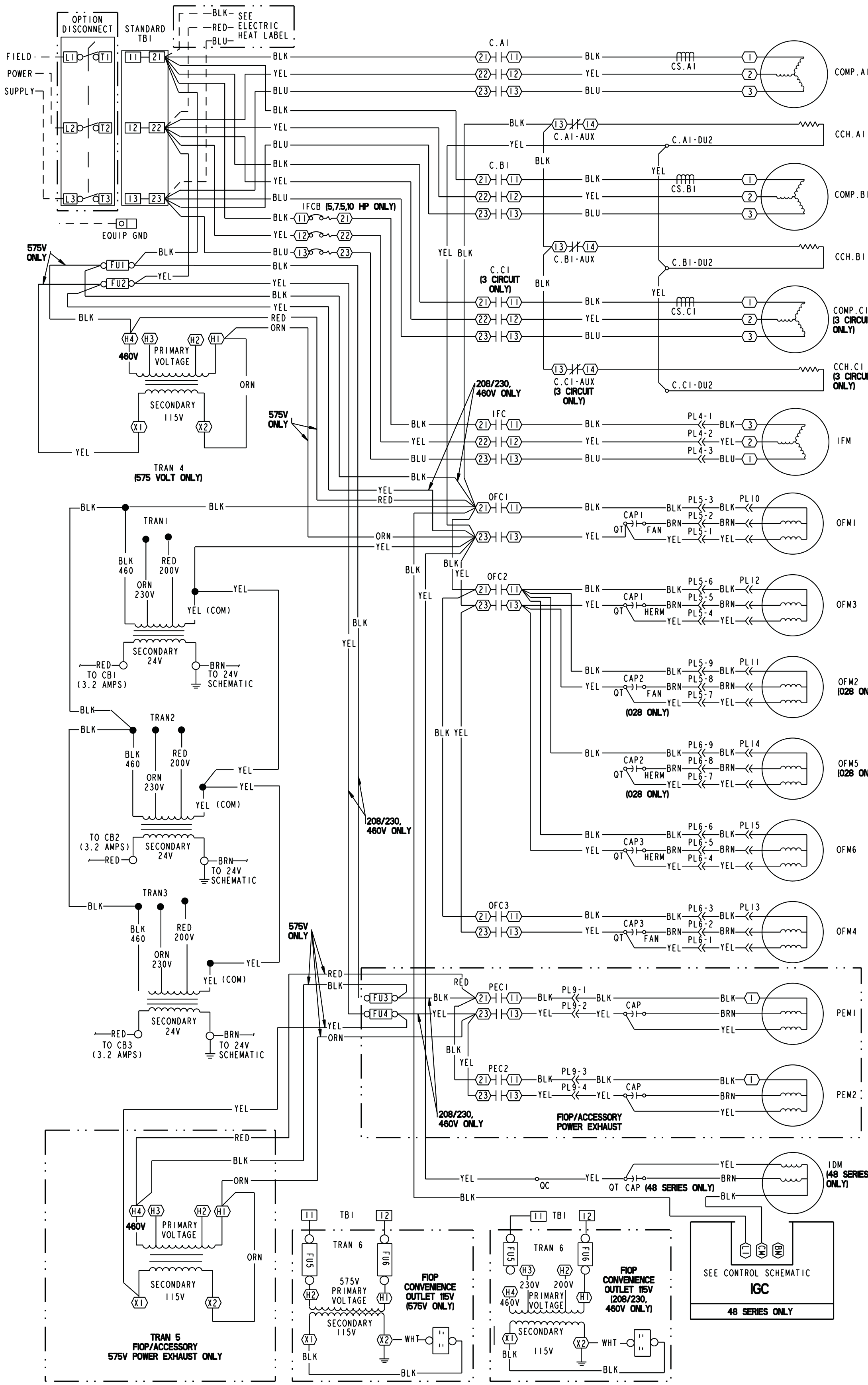
Typical wiring schematic



Typical wiring schematic (cont)

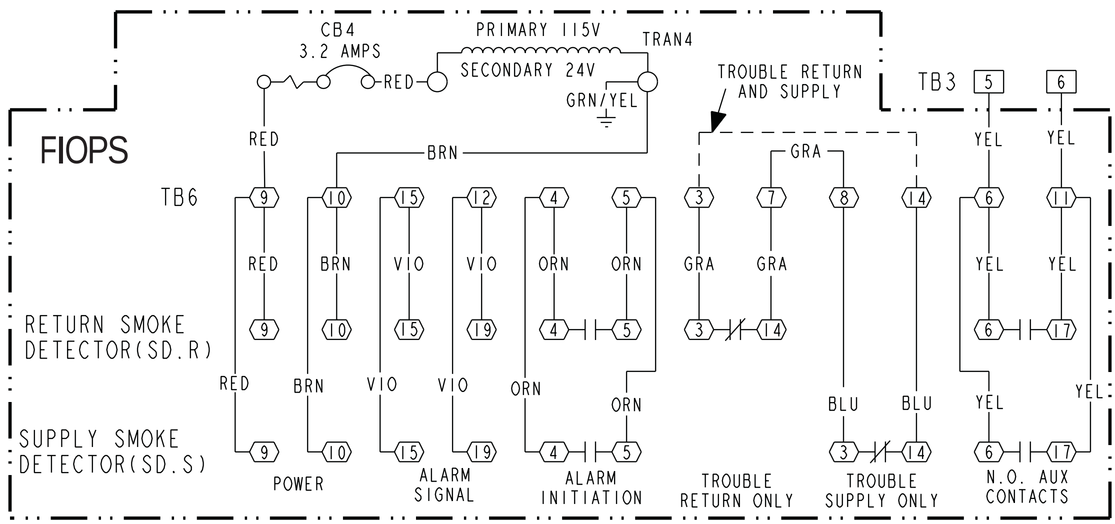


POWER SCHEMATIC — 48/50HG

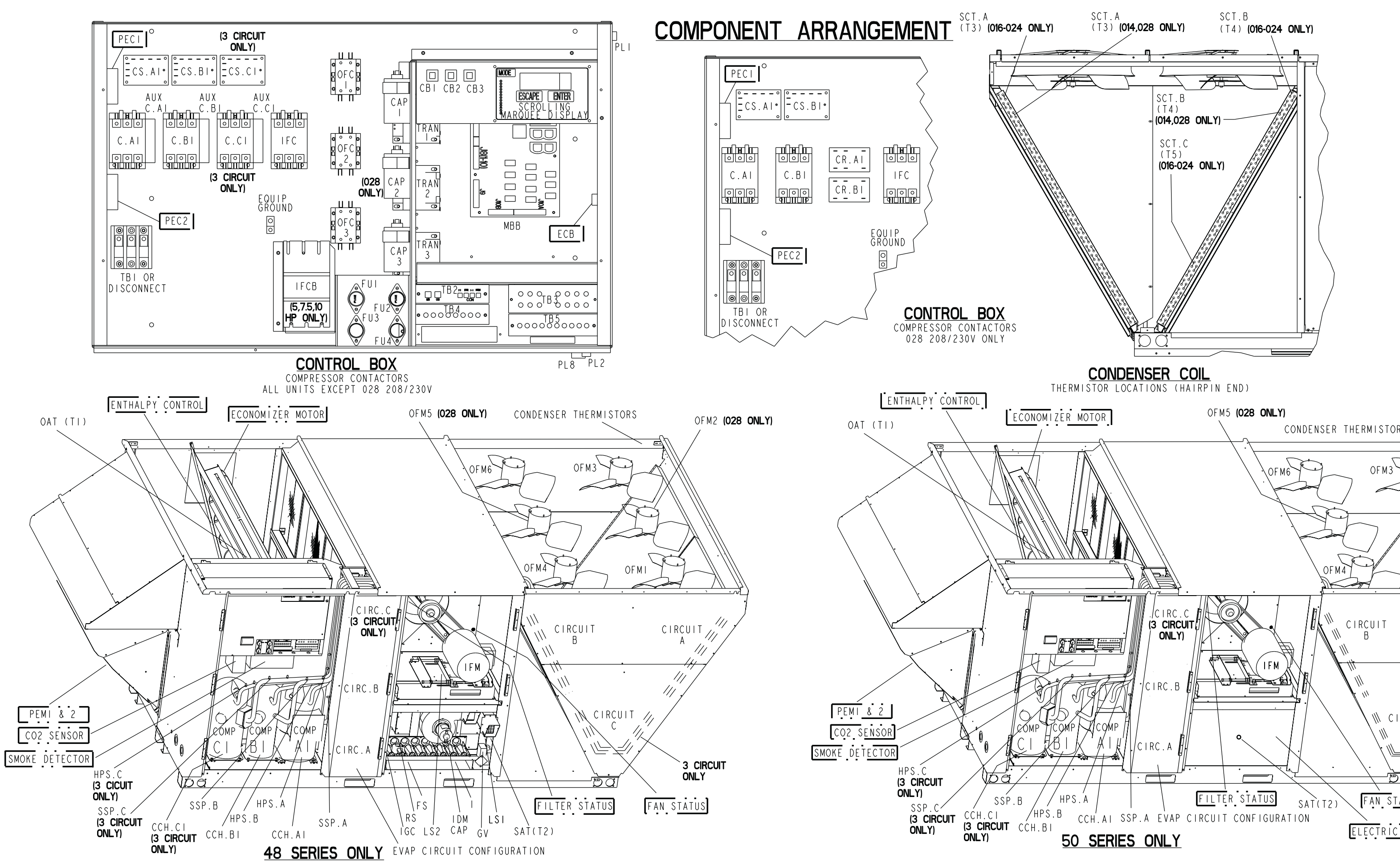


Typical wiring schematic (cont)

SMOKE DETECTOR WIRING



Typical component arrangement



PLUG LOCATION REFERENCE

PL1	CONTROL BOX-TOP RIGHT (HEAT CONTROLS)
PL2	CONTROL BOX-BOTTOM (HPS. A, B, C)
PL3	HEAT SECTION PARTITION (HEAT CONTROLS)
PL4	FAN SECTION (INDOOR FAN MOTOR)
PL5	CONDENSER SECTION (OFM1, 2, 3)
PL6	CONDENSER SECTION (OFM4, 5, 6)
PL7	ECONOMIZER SECTION (ECONOMIZER MOTOR)
PL8	CONTROL BOX-BOTTOM (TRANSDUCERS SSP. A,B,C)
PL9	POWER EXHAUST SECTION (POWER EXHAUST MOTORS)
PL10	CONDENSER SECTION (OFM1)
PL11	CONDENSER SECTION (OFM2)
PL12	CONDENSER SECTION (OFM3)
PL13	CONDENSER SECTION (OFM4)
PL14	CONDENSER SECTION (OFM5)
PL15	CONDENSER SECTION (OFM6)
PL16	FAN SECTION (FAN STATUS ACCESSORY)

LEGEND

---.A — Circuit A
AUX — Auxiliary Contact
---.B — Circuit B
---.C — Circuit C
C — Compressor, Contactor
CAP — Capacitor
CB — Circuit Breaker
CCH — Crankcase Heater
CCN — Carrier Comfort Network
COMP — Compressor
CR — Control Relay
CS — Current Sensor
DU — Dummy Terminal
EC — Enthalpy Control
ECB — Economizer Control Board
FIOP — Factory-Installed Option
FS — Flame Sensor
FU — Fuse
GND — Ground
GV — Gas Valve
HPS — High-Pressure Switch
I — Ignitor
IAQ — Indoor-Air Quality
IDM — Induced-Draft Motor
IFC — Indoor-Fan Contactor
IFCB — Indoor-Fan Circuit Breaker
IFM — Indoor-Fan Motor
IGC — Integrated Gas Controller
LEN — Local Equipment Network
LS — Limit Switch
MBB — Main Base Board
OAQ — Outdoor-Air Quality
OAT — Outdoor-Air Temperature
OFC — Outdoor-Fan Contactor
OFM — Outdoor-Fan Motor
PEC — Power Exhaust Contactor
PEM — Power Exhaust Motor
PF — Plugged Filter (Status)
PL — Plug
RS — Rollout Switch
SAT — Supply-Air Temperature
SCT — Saturated Condensing Temp
SSP — Saturated Suction Pressure
TB — Terminal Block
TRAN — Transformer
T-55 — Room Temp Device
T-56 — Room Temp Device with Set Point Adjustment

X — Terminal Block
○ — Terminal (Unmarked)
⟨x⟩ — Terminal (Marked)
● — Splice
——— Factory Wiring
– – – – Field Wiring
━━━ To indicate common potential only, not to represent wiring.
━ · · ━ To indicate FIOP or Accessory

THERMOSTATIC/IGC MARKINGS

BM — Blower Motor
C — Common
CM — Inducer Motor
CS — Centrifugal Switch
G — Fan
IFO — Indoor Fan On
L1 — Line 1
R — Thermostat Power
RT — Power Supply
SS — Speed Sensor
W — Thermostat Heat
W1 — 1st Stage of Heating
W2 — 2nd Stage of Heating
X — Alarm Output
Y1 — 1st Stage of Cooling
Y2 — 2nd Stage of Cooling

NOTES:
1. Factory wiring is in accordance with the National Electrical Codes. Any field modifications or additions must be in compliance with all applicable codes.
2. Use 75° C min wire for field power supply. Use copper wires for all units.
3. All circuit breakers Must Trip Amps are equal to or less than 156% RLA (Rated Load Amps).
4. Compressor and fan motors are thermally protected. Three-phase motors protected against primary single-phase conditions.
5. Red jumper wire must be added between R and W1 for Space Temperature mode and temporarily during Service-Test mode when the heaters need to operate.

Operating sequence

Heating

48HG Units

NOTE: The 48HG units have 2 stages of gas heat.

When the thermostat calls for heating, power is sent to W on the IGC (integrated gas unit controller) board. An LED (light-emitting diode) on the IGC board will be on during normal operation. A check is made to ensure that the rollout switch and limit switch are closed and the induced-draft motor is running. The induced-draft motor is then energized, and when speed is proven with the hall effect sensor on the motor, the ignition activation period begins. The burners will ignite within 5 seconds.

If the burners do not light, there is a 22-second delay before another 5-second attempt. If the burners still do not light, this sequence is repeated for 15 minutes. After the 15 minutes have elapsed, if the burners still have not lit, heating is locked out. To reset the control, break 24-v power to the thermostat.

When ignition occurs the IGC board will continue to monitor the condition of the rollout and limit switches, the hall effect sensor, as well as the flame sensor. If the unit is controlled through a room thermostat set for fan auto., 45 seconds after ignition occurs, the indoor-fan motor will be energized (and the outdoor-air dampers will open to their minimum position). If for some reason the overtemperature limit opens prior to the start of the indoor fan blower, on the next attempt, the 45-second delay will be shortened to 5 seconds less than the time from initiation of heat to when the limit tripped. Gas will not be interrupted to the burners and heating will continue. Once modified, the fan on delay will not change back to 45 seconds unless power is reset to the control.

When additional heat is required, W2 closes and initiates power to the second stage of the main gas valve. When the thermostat is satisfied, W1 and W2 open and the gas valve closes, interrupting the flow of gas to the main burners. If the call for W1 lasted less than 1 minute, the heating cycle will not terminate until 1 minute after W1 became active. If the unit is controlled through a room thermostat set for fan auto., the indoor-fan motor will continue to operate for an additional 45 seconds then stop. If the overtemperature limit opens after the indoor motor is stopped within 10 minutes of W1 becoming inactive, on the next cycle the time will be extended by 15 seconds. The maximum delay is 3 minutes. Once modified, the fan off delay will not change back to 45 seconds unless power is reset to the control.

A LED indicator is provided on the IGC to monitor operation. The IGC is located by removing the heat section side panel. During normal operation, the LED is continuously on.

For units with economizers, the outdoor-air damper stays at the Economizer Minimum Position while the evaporator fan is operating. The outdoor-air damper is closed when the indoor fan is not operating.

IGC LED INDICATIONS

ERROR CODE	LED INDICATION
Normal Operation	On
Hardware Failure	Off
Fan On/Off Delay Modified	1 Flash
Limit Switch Fault	2 Flashes
Flame Sense Fault	3 Flashes
Five Consecutive Limit Switch Faults	4 Flashes
Ignition Lockout Fault	5 Flashes
Inducer Switch Fault	6 Flashes
Rollout Switch Fault	7 Flashes
Internal Control Fault	8 Flashes

LEGEND

IGC — Integrated Gas Unit Controller
LED — Light-Emitting Diode

NOTES:
1. There is a 3-second pause between error code displays.
2. If more than one error code exists, all applicable error codes will be displayed in numerical sequence.
3. Error codes on the IGC will be lost if power to the unit is interrupted.

50HG Units

Thermostat Mode: The 50HG (low, medium, and high electric heat) units have 2 stages of electric heat (nominal 15 kW heater is single stage). When the thermostat calls for heating, power is applied to the W1 terminal at the unit. The unit control will energize the indoor fan contactor and the first stage of electric heat. On units with two-stage heating, when additional heating is required, the second stage of electric heat will be energized when power is applied at the W2 terminal on the unit.

Space Sensor Mode: The 50HG (low, medium, and high electric heat) units have 2 stages of electric heat (nominal 15 kW heater is single stage). When the space sensor senses a temperature that is below the heating set point, the unit control will energize the indoor fan contactor and the first stage of electric heat. On units with two-stage heating, when additional heating is required, the second stage of electric heat will be energized when the space temperature does not reach the desired set point within the appropriate time. See the Controls and Troubleshooting guide for more detail.

Cooling

Economizer Control — If the economizer is available for cooling, the unit will always try to meet demand using the economizer before turning on a compressor. The economizer is available for cooling when:

- the outdoor temperature is below the Economizer High Temperature Lockout (ECL.H) and above the Economizer Low Temperature Lockout (ECL.L)
- the outdoor enthalpy is low.

If the economizer is not available for cooling, the economizer will move to the Economizer Minimum Position (MIN.P).

If the economizer is available for cooling and yet it is unable to meet demand, the unit will continue to modulate the economizer while cycling the compressors to increase total cooling capacity.

If the indoor fan is not operating, the economizer will be closed.

The 48/50HG units can also be equipped with optional CO_2 sensors for additional indoor air quality control. Consult the Controls and Troubleshooting Guide for more information on IAQ features.

Cooling Using Space Sensor (T55 or T56) Control — To operate the unit in Space Sensor mode, Unit Control Type must be set to Space Sensor (3) and a wire must be added between R and W1 on TB4 (see controls schematic). While in this mode, the unit tries to maintain the Space Temperature (SPT) at one of 4 different set points: the Occupied Cool Set Point (OCSP), the Unoccupied Cool Set Point (UCSP), the Occupied Heat Set Point (OHSP), or the Unoccupied Heat Set Point (UHSP). The building's occupancy is affected by a number of different factors (see Controls and Troubleshooting Guide for details). When the building is occupied, the occupied set points are active. When the building in unoccupied, the unoccupied set points are active. In Space Sensor mode, the control will switch automatically between cooling and heating to maintain temperature. However, to minimize unnecessary cool to heat and heat to cool changes, there is a 10-minute delay after the last stage turns off before the control will switch modes.

To maintain temperature while cooling, the unit will turn on compressors as needed when the economizer is either unavailable or not providing enough cooling. The minimum on-time for each compressor is 3 minutes and the minimum off-time is 5 minutes.

Units with 3 compressors (48/50HG016,020,024) have 3 stages of cooling. Units with 2 compressors (48/50HG014,028) have 2 stages of cooling. The economizer is not considered a stage of cooling even though it can provide cooling in certain situations. In general, the minimum time between increasing stages (from 1 to 2 and from 2 to 3) is 7.5 minutes, however, the minimum time between stages can be further reduced in certain situations (see Controls and Troubleshooting Guide). The minimum time between decreasing stages (3 to 1 and 2 to 0) is 5 minutes.

Consult the Controls and Troubleshooting Guide for additional information on configuring the controls for space sensor control and adjusting the minimum compressor on-time, minimum compressor off-time, and the minimum time between decreasing stages.

Cooling Using Thermostat Control — Thermostat cooling begins when the Y1 input is energized. If the economizer is available for cooling, the economizer will try to maintain the Supply Air Temperature (SAT) at either the Low Cool Supply Air Set Point (LCS) for a Y1 call or the High Cool Supply Air Set Point (HCS) for a Y2 call. If the economizer operates at 100% for 5 minutes or the economizer cooling is not available, the unit will begin to stage compressors. While the compressors are operating, the economizer will try to maintain its position at 100%. However, if low suction pressures are experienced, the economizer will begin to close in order to protect the compressors from damage.

Three different compressor-staging algorithms are available with *Comfort*Link™ control. They are called Adaptive, 1-stage Y1 and 2-stage Y1. In Adaptive mode, once compressor staging begins (see above), at least one compressor will run as long as there is a Y1 call. On a three-circuit machine with only a Y1 call, the second circuit will cycle depending upon the trend in the Supply Air Temperature (SAT). If there is a Y2 call, compressors will stage up to the maximum number available.

The 1-stage Y1 and 2-stage Y1 modes are identical if there are only two circuits. In both cases, the stages follow the thermostat calls directly. The two modes differ when three circuits are available as they are on the 016, 020, and 024 units. In 1-stage Y1 mode, a Y1 call will cause the first compressor stage to operate immediately (there always is a 5-second delay between compressor starts) while in 2-stage Y1 mode, a Y1 call will cause the first two stages to operate immediately. For either mode, all stages will operate immediately if there is a Y2 call.

If fan request G is energized, but Y1 is not energized, the indoor fan will operate and the economizer position will be maintained at MIN.P.

Application data

Ductwork
Ductwork should be attached to the curb on all units. Interior installation may proceed before unit is set in place on roof. If ductwork will be attached to the unit, do not drill in condensate drain pan area — leaks may result.

Electric heat (50HG only)
On 50HG014-028 units with electric heat, a field-supplied 90-degree elbow must be installed on the supply ductwork below the unit discharge connection.

Thru-the-curb service connections
Roof curb connections allow field power wires and control wires to enter through the roof curb opening.

Thermostat/space temperature sensor (T55 or T56)
Either a 2-stage cooling thermostat or a space temperature sensor is required for all units. A field-supplied jumper is required when using a space temperature sensor. The jumper is placed between terminals R and W1 on the unit thermostat terminal block (TB4). Refer to wiring diagram for details.

Heating-to-cooling changeover
All units are automatic changeover from heating to cooling when automatic changeover thermostat and subbase or space temperature sensors are used.

Airflow
Units are draw-thru on cooling and blow-thru on heating.

Maximum airflow
To minimize the possibility of condensate blow-off from evaporator, airflow through units should not exceed 500 cfm/nominal ton.

Minimum airflow
The minimum airflow for cooling is 300 cfm/nominal ton. Operation Air Quantity Limits table on page 7 for minimum airflow cfm for heating.

> IMPORTANT: The minimum heating cfm must be maintained to ensure proper operation in the Heating mode. The minimum heating cfm value takes precedence over the minimum cooling cfm value.

Minimum ambient cooling operation temperature
All circuits are designed to operate at outdoor temperatures down to 0° F (–17.8 C).

Maximum operating outdoor-air temperature
For cooling, this temperature is 125 F (52 C). Refer to the Cooling Capacity tables on pages 19-21 for further details.

High altitude (48HG only)
A change to the gas orifice may be required at high altitudes. Refer to Altitude Compensation charts on page 52.

Minimum temperature (48HG only)
Air entering the heat exchanger in heating must be a minimum of 50 F (10 C) continuous and 45 F (7.2 C) intermittent. A field-supplied outdoor-air temperature control must be used to initiate both stages of heat whenever the entering-air temperature is less than 45 F.

Internal unit design
Due to Carrier's internal unit design (draw-thru over the motor), air path, and specially designed motors, the full horsepower (maximum continuous bhp) listed in the Physical Data table and the notes following each Fan Performance table can be utilized with extreme confidence.

Using Carrier motors with the values listed in the Physical and Fan Performance Data tables *will not* result in nuisance tripping or premature motor failure. The unit warranty will not be affected.

Condenser coil protection (*Enviro-Shield™*)
Pre-coated aluminum-fin coils have a durable epoxy-phenolic coating applied to the fin prior to the fin stamping process to provide protection in mildly corrosive coastal environments. Pre-coated coils have an inert barrier between the aluminum fin and copper tube. This barrier electrically disconnects the dissimilar metals to minimize the potential for galvanic corrosion. This economical option provides substantial corrosion protection beyond the standard uncoated coil construction.

Copper-fin coils provide increased corrosion resistance in moderate coastal environments where industrial air pollution is not present. All copper coils eliminate bi-metallic construction to eliminate the potential for galvanic corrosion. Use of copper fin coils in industrial environments is not recommended due to potential attack from sulfur, sulfur oxide, nitrogen oxides, carbon and several other industrial air-borne contaminants. In moderate seacoast environments, copper-fin coils have extended life compared to standard or pre-coated aluminum-fin coils.

E-Coated aluminum-fin coils undergo a precisely controlled scientific process that bonds an impermeable epoxy coating to the specially prepared fin coil surface. E-Coating produces a smooth, consistent coating that is less brittle, more resilient and more durable than previous postcoating processes. E-Coated aluminum-fin coils offer economical protection and improved coil life in many contaminated environments.

E-Coated copper-fin coils provide maximum protection in virtually all environments, this option combines the continuous, impenetrable barrier of the E-Coating process with the natural resistance of an all-copper construction. E-Coated copper-fin coil assemblies ensure long life, even in environments that combine harsh coastal conditions with industrial contamination.

Indoor air quality

An indoor air quality sensor, which senses CO_2, is a factory-installed option. The sensor in conjunction with the economizer is used to maintain indoor air quality. By selecting this option, the minimum economizer position can be reduced because the control will adjust economizer position to maintain indoor air quality to the desired set point. A wall-mounted indoor air quality sensor is a field-installed accessory.

Enthalpy sensor

Enthalpy switches are available as field-installed accessories. If only one switch is used, it is used to measure return air enthalpy. If two switches are used they should be wired in a differential configuration to measure the difference in the return and outdoor enthalpies. The enthalpy switches signify when the outdoor air is suitable for free cooling.

Plugged filter indicator

A plugged filter indicator (filter status switch) is available as a factory-installed option and a field-installed accessory. By measuring the pressure differential across the evaporator section, it signals when the evaporator filters should be cleaned.

Fan status

A fan status switch is available as a field-installed accessory. By sensing the pressure differential generated by the indoor fan, it signals the *Comfort*Link™ system when the indoor fan blower is operating and therefore it is very useful for detecting broken belts, etc.

Guide specifications — 48/50HG014-028

Packaged Rooftop Electric Cooling Unit with Gas or Electric Heat — Constant Volume Application

HVAC Guide Specifications

Size Range: **13 to 25 Tons, Nominal (Cooling)**
250,000 to 400,000 Btuh, Nominal (Input Heating) (Gas Units)
12 to 78 kW (Electric Heat)

Carrier Model Numbers:
48HGD, 48HGE, 48HGF, 48HGK, 48HGL, 48HGM, 50HG

ASHRAE 90.1 COMPLIANT

Part 1 — General

1.01 SYSTEM DESCRIPTION

Unit is an outdoor rooftop mounted, electrically controlled heating and cooling unit utilizing scroll hermetic compressors with crankcase heaters for cooling duty and gas combustion or electric heat for heating duty. Supply air shall be discharged downward or horizontally, as shown on contract drawings.

1.02 QUALITY ASSURANCE

A. Unit shall comply with minimum requirements of ASHRAE 90.1-2001 Energy Efficiency Standards.

B. Unit shall be rated in accordance with ARI Standards 270 and 340/360 and all units shall be designed in accordance with UL Standard 1995.

C. Unit shall be designed to conform to ASHRAE 15.

D. Unit shall be UL and UL, Canada tested and certified in accordance with ANSI Z21.47 Standards as a total package.

E. Roof curb shall be designed to conform to NRCA Standards.

F. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

G. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).

H. Unit shall be manufactured in a facility registered to ISO 9001:2000.

1.03 DELIVERY, STORAGE, AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

Part 2 — Products

2.01 EQUIPMENT (STANDARD)

A. General:

The unit shall be a factory assembled, single-piece heating and cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:

1. Constructed of galvanized steel (G90 — 1.8 oz. of zinc per square foot [550 grams per square meter] of sheet metal), bonderized and primer-coated on both sides and coated with a baked polyester thermosetting powdercoating finish on the outer surface.
2. Indoor blower compartment interior surfaces shall be insulated with a minimum $^1/_2$-in. thick, 1 lb density fiberglass insulation. Fiberglass insulation shall be bonded with a thermosetting resin (8 to 12% by weight nominal, phenol formaldehyde typical), and coated with an acrylic or other material that meets the NFPA 90 flame retardance requirements and has an ''R'' Value of 3.70. Aluminum foil-faced fiberglass insulation shall be used in the gas heat compartment.
3. Cabinet panels shall be hinged with stainless steel hinges. Panels shall have minimum $^1/_2$-in. thick, 1.5-lb. density insulation. Hinged access panels for the filter, compressors, evaporator fan, and control box areas. Filter hinged access panels permit tool-less entry for changing filters. Each external hinged access panel shall be double-wall construction and permanently attached to the rooftop unit. Panels shall also include tiebacks.
4. Filters shall be accessible through a hinged access panel.
5. Holes shall be provided in the base rails (minimum 14 gage) for rigging shackles and level travel and movement during overhead rigging operations.
6. Fork lift slots shall be available from two sides of the unit (end and side).
7. Unit shall contain a sloped drain pan, to prevent standing water from accumulating. Pan shall be fabricated of epoxy powder coated steel.

C. Fans:

1. Indoor blower (evaporator fan):
   a. Centrifugal supply air blower shall have pillow-block ball bearings and adjustable belt drive. Blower assembly shall slide out of unit for servicing.
   b. Fan wheel shall be made from steel with a corrosion resistant finish. It shall be a dynamically balanced, double-inlet type with forward-curved blades.
   c. The indoor fan system (blower wheels, motors, belts, and both bearings) shall slide out for easy access.
2. Condenser fans shall be of the direct-driven propeller type, with corrosion-resistant blades riveted to corrosion-resistant steel supports. They shall be dynamically balanced and discharge air upwards. Condenser fan motors shall be totally enclosed and be of a shaft down design.

3. Induced-draft blower shall be of the direct-driven, single inlet, forward-curved, centrifugal type. It shall be made from steel with a corrosion-resistant finish and shall be dynamically balanced.

D. Compressor(s):
1. Fully hermetic, scroll type, internally protected.
2. Factory spring-shock mounted and internally grommet and spring-mounted for vibration isolation.
3. On electrically and mechanically independent refrigerant circuits.
4. Reverse rotation protection capability.
5. Crankcase heaters shall only be activated during compressor OFF mode.

E. Coils:
1. Standard evaporator and condenser coils shall have copper or aluminum plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
2. Coils shall be leak tested at 150 psig (1034 kPa) and pressure tested at 450 psig (3103 kPa).
3. Optional pre-coated aluminum-fin coils shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
4. Copper-fin coils shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan. All copper construction shall provide protection in moderate coastal environments.
5. E-Coated aluminum-fin coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60 deg of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in./lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be aluminum fins mechanically bonded to copper tubes.
6. E-Coated copper-fin coils shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60 deg of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in./lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be copper fins mechanically bonded to copper tubes with copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting sheet metal coil pan to maintain coating integrity and minimize corrosion potential between coil and pan.

F. Heating Section (48 Series Units):
1. Induced-draft combustion type with energy saving direct-spark ignition system and redundant main gas valve with 2-stage capability.
2. The heat exchanger shall be of the tubular-section type constructed of a minimum of 20-gage steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
3. Burners shall be of the in-shot type constructed of aluminum-coated steel.
4. All gas piping shall enter the unit at a single location.
5. Stainless steel heat exchanger shall be available.

G. Refrigerant Components:

Each refrigerant circuit shall include:
1. Thermostatic expansion valve (TXV) with removable power element.
2. Filter driers.
3. Gage port and connections on suction and discharge.

H. Filter Section:

Standard filter section shall consist of either factory-installed 2-in. (51 mm) thick throwaway fiberglass filters, 30% pleated filters of commercially available sizes, or optional 4-in. filter capability.

I. Controls and Safeties:
1. Unit *Comfort*Link™ Controls:
   a. Scrolling Marquee display.
   b. CCN network capable.

c. Unit control with standard suction pressure transducers and condensing temperature thermistors.
d. Shall provide a 5 F temperature difference between cooling and heating set points to meet ASHRAE 90.1, energy standard.
e. Shall provide and display a current alarm list and an alarm history list.
f. Automatic compressor redundancy.
g. Service run test capability.
h. Shall accept input from a CO_2 sensor (both indoor and outdoor).
i. Configurable alarm light shall be provided which activates when certain types of alarms occur.
j. Compressor minimum run time (3 minutes) and minimum off time (5 minutes) are provided.
k. Service diagnostic mode.
l. Economizer control (optional).
m. Multiple capacity stages.
n. Unit shall be complete with self-contained low-voltage control circuit.

2. Safeties:
   a. Unit shall incorporate a solid-state compressor lockout which provides optional reset capability at the space thermostat, should any of the following safety devices trip and shut off compressor:
      1) Compressor lockout protection provided for either internal or external overload.
      1) Low-pressure protection.
      1) Freeze protection (evaporator coil).
      1) High-pressure protection (high pressure switch or internal).
      1) Compressor reverse rotation protection.
      1) Loss of charge protection.
   b. Supply-air sensor shall be located in the unit and detect both heating and cooling operation.
   c. Induced draft heating section (48 Series) shall be provided with the following minimum protections:
      1) High-temperature limit switch.
      1) Induced-draft motor speed sensor.
      1) Flame rollout switch.
      1) Flame proving controls.
      1) Redundant gas valve.

J. Operating Characteristics:
1. Unit shall be capable of starting and running at 125 F (52 C) ambient outdoor temperature per maximum load criteria of ARI Standard 360.
2. Unit with standard controls will operate in cooling down to an outdoor ambient temperature of 0° F (–17.8 C).
3. Unit shall be provided with fan time delay to prevent cold air delivery.
4. Size 15, 17 1/2, and 20 ton units shall have 3 fully independent refrigerant circuits to allow for 33% capacity per circuit.

K. Electrical Requirements:

All unit power wiring shall enter unit cabinet at a single location.

NOTE: On 208/230 v units using 75-kW heaters, separate wiring is required.

L. Motors:
1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have line break thermal and current overload protection.
2. All fan motors shall have permanently lubricated, sealed bearings and inherent automatic-reset thermal overload protection or manual reset calibrated circuit breakers.
3. All indoor-fan motors 5 hp and larger shall meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT), effective October 24, 1997.

M. Special Features:

Certain features are not applicable when the features designated * are specified. For assistance in amending the specifications, contact your local Carrier Sales Office.

1. Full Perimeter Roof Curbs (Horizontal and Vertical):
   a. Formed of 14-gage galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
   b. Permits installing and securing ductwork to curb prior to mounting unit on the curb.

* 2. Integrated Economizer:
   a. Economizer shall be furnished and installed complete with recirculated air dampers, outside air dampers, and controls.
   b. Low-leakage dampers ride in UL approved gears.
   c. Capable of introducing up to 100% outdoor air for minimum ventilation as well as free cooling.
   d. Damper actuator shall be opposing, gear driven, 24-v fully modulating design.
   e. Economizer outdoor hood shall be pre-painted.
   f. Economizer shall be available for both field or factory installation.

* 3. Barometric Relief Damper Package:

a. Package shall include damper, seals, hardware, and hoods to relieve excess internal pressure.

b. Damper shall close due to gravity upon unit shutdown.

* 4. Power Exhaust:

Package shall include an exhaust (centrifugal style) fan, 1 Hp 208-230, 460 v (factory-wired for 460 v) direct-drive motor, and damper with economizer to control over-pressurization of building. Two-stage capacity through *Comfort*Link™ control shall be available.

* 5. Thermostats and Subbases:

To provide staged heating and cooling in addition to automatic (or manual) changeover and fan control.

* 6. Differential Enthalpy Sensor:

a. For use with economizer only.

b. Capable of comparing heat content (temperature and humidity) of outdoor air and indoor air and controlling economizer cut-in point at the most economical level.

* 7. Electronic Programmable Thermostat:

Capable of using deluxe full-featured electronic thermostat.

8. Liquefied Propane Conversion Kit (48 Series):

Kit shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane gas.

9. Convenience Outlet:

Shall be factory-installed and internally mounted with an externally accessible 115-v, 15 amp. GFI, female receptacle with hinged cover. A step down transformer shall be included so no additional wiring is necessary.

10. Non-Fused Disconnect Switch:

Shall be factory-installed, internally mounted, NEC and UL approved. Non-fused switch shall provide unit power shutoff. Shall be accessible from outside the unit and shall provide power off lockout capability.

11. Electric Heater Package (50 Series Units Only):

a. Fully assembled for installation. The packages are designed in accordance with UL safety standards 1995 and listed by ETL. Heater construction approved by UL 5306.

b. Heater element open coil resistance wire, nickel-chrome alloy, 0.29 inches inside diameter, strung through ceramic insulators mounted on metal frame. Coil ends are staked and welded to terminal screw slots.

c. Heater assemblies are provided with integral fusing for protection of internal heater circuits not exceeding 48 amps each.

d. Auto reset thermo limit controls, magnetic heater contactors (24 v coil) and terminal block all mounted in electric heater control box (minimum 18 ga. Galvanized steel) attached to end of heater assembly.

12. Hail Guard, Condenser Coil Grille:

Shall protect the condenser coil from hail, flying debris, and damage by large objects without increasing unit clearances.

13. Horizontal Kit:

Horizontal kit shall contain all the necessary hardware to convert a vertical airflow unit to a horizontal airflow unit.

The unit shall also be available as a horizontal airflow unit directly from the factory.

14. CO_2 Sensor:

The CO_2 sensor shall have the ability to monitor CO_2 levels and relay information to the controller. The controller will use CO_2 level information to modulate the economizer and provide demand control ventilation. The sensor shall be available as field or factory-installed.

15. Return Air Smoke Detector:

The smoke detector shall send input to the controller to shut down the unit in case smoke is detected. The smoke detector shall be factory installed in the return air section or shall be available as a field-installed accessory.

16. Filter Status:

The filter status switch shall be a pressure switch and will indicate a dirty filter. The switch shall be available as field or factory-installed.

17. Fan Status:

The fan status switch shall be a pressure switch and will indicate indoor fan operation.

18. Enthalpy Sensor:

The enthalpy sensor shall provide economizer control based on outdoor air enthalpy. The economizer control shall include logic to calculate the wet bulb and dry bulb temperatures of the outdoor air.

19. Two-Position Damper:

The damper shall admit up to 25% outdoor air and shall close upon shutdown. The package shall include a single-blade damper and motor.

20. 30% Filters:

The filters shall be 30% efficient. The filters shall be 2-in., pleated filters.

21. Standard Motor with Alternate Drive:

The alternate drive shall provide high-static drive capability to enhance evaporator fan performance.

22. Alternate Motor with Standard Drive:
    The alternate motor shall provide high-static motor capability to enhance evaporator fan performance.
23. Alternate Motor with Alternate Drive:
    The alternate motor and alternate drive shall provide high-static motor and drive capability to enhance evaporator fan performance.
24. Four-in. Filter Capability:
    The unit shall be capable of accepting 4-in. filters by removal of the factory-supplied 2-in. filters and filter rack and installation of a specially designed filter bracket.

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